

**AYURVEDA VACHASPATHI MD(Ay)/AYURVEDA DHANVANTRI MS(Ay)
POST GRADUATE DEGREE COURSE IN AYURVEDA**

REVISED ORDINANCE

2014



Rajiv Gandhi University of Health Sciences, Karnataka

4th 'T' Block, Jayanagar, Bangalore 560041

Schedule annexed to University Notification No.UA/SYN/ORD/PG (Ayu)- /2013-14 dated

**Revised Ordinance Governing Post Graduate Courses in Ayurveda
Vachaspathi MD(Ay)/ Ayurveda Dhanwantri MS(Ay) -2014**

JUNE 2-14

Section No	Contents	Page No.
	Emblems of RGUHS	
	Vision Statement of RGUHS	
	Notification	
	Introduction	
Section I	Regulations	
1.	Title of the Course & Post-graduate specialities	
2.	Eligibility for Admission	
3.	Mode of Admission	
4.	Obtaining Eligibility Certificate	
5.	Intake of students	
6.	Period of study & attendance	
7.	Method of training	
8.	Medium of Instruction	

9.	Monitoring progress of studies	
10.	Vacation	
11.	Study tour	
12.	Dissertation	
13.	Scheme of Examination	
14.	Schedule of Examination	
15.	Appointment of Examiners	
16.	Criteria for declaring results	
Section II	Goals and Objectives of the Courses	
Section III	Syllabus	
Section IV	Teaching & monitoring Learning progress	
Section V	Ayurveda ethics-Sensitization and Practice	

**Rajiv Gandhi University of Health Sciences,
Karnataka Bangalore.**

The Emblem



The emblem of the Rajiv Gandhi University of Health Sciences is a symbolic expression of the confluence of both eastern and western health sciences. A central wand with entwined snakes symbolizes Greek and Roman gods of health called Hermis and Mercury is adopted as symbol of modern Medical sciences. The pot above depicts Amrutha Kalasham of Dhanvanthri the father of all health sciences. The wing above it depicts human soul called Hansa (Swan) in Indian philosophy. The rising sun at the top symbolizes olive branches, which is an expression of peace, love and harmony. In Hindu philosophy it depicts the vanaspathi (also called as oushadi) held in the hands of Dhanvanthri, which is an expression of peace, love and Harmony. In Hindu Philosophy it depicts the Vanaspati (also called as Oushadi) held in the hands of Dhanvantri which are the source of all medicine. The lamp depicts human energy (Kundali). Does script "Devahitham Yadayahu" Inside the lamp taken from Upanishath Shanti Manthram (Bhadram Karnebhi Shrunuyanadev...) which says "May we live the full span of our lives allotted by god in perfect health" which is the motto of the Rajiv Gandhi University of Health Sciences.

Rajiv Gandhi University of Health Sciences, Karnataka Bangalore.

Vision Statement

The Rajiv Gandhi University of health Sciences, Karnataka aims at bringing about a confluence of both Eastern and Western health Sciences to enable the humankind "Live the full span of our lives allotted by God Prefect Health".

It would strive for achievement of academic excellence by educating and training health professionals who

- ❖ **Shall recognize health needs of community.**
- ❖ **Carry out professional obligations ethically and equitably and in keeping with National Health Policy.**

It would promote development of scientific temper and Health Sciences Research.

It would encourage inculcation of Social Accountability amongst students, teachers and institutions.

It would support quality assurance of all its educational programmes

Motto

Right for Rightful Health Sciences Education



NOTIFICATION

Sub: Revised Ordinance governing Post Graduate Courses in
Ayurveda Vachaspathi MD(Ay)/ Ayurveda Dhanwantri
MS(Ay) -2014

- Ref:1) RGUHS Notification No. SYN/ORD/PG(Ayu)-37/2002-2003
dated 08.11.2002
2) Minutes of meeting of Academic Council held on 19.06.2014
3) Minutes of the 108th meeting of Syndicate held on 14.08.2014

In exercise of the powers conferred under section 35 (2) of RGUHS Act, 1994, the Syndicate at its meeting held on 14.08.2014 has been pleased to approve the revised Ordinance Governing Post Graduate Courses in Ayurveda Vachaspathi MD(Ay)/ Ayurveda Dhanwantri MS(Ay) -2014 as shown in the annexure appended herewith.

The revised Ordinance shall come into force from the academic year 2014-15.

By Order,


REGISTRAR

To

The Principals of all the colleges conducting Ayurveda Courses.

Copy to:

- 1) The Secretary to Governor, Governor's Secretariat, Raj Bhavan, Bangalore - 560 001.
- 2) The Principal Secretary to Government, Health & Family Welfare Department, (Medical Education), Vidhana Soudha, Bangalore -560 001.
- 3) The Director, Department of Medical Education, Anand Rao Circle, Bangalore - 560 009.
- 4) PA to Vice-Chancellor / Registrar / Registrar (Eva.) / Finance Officer.
- 5) Director, Curriculum Development Cell.
- 6) The Home Page of RGUHS Website
- 7) Guard File / Office Copy.

Revised Ordinance Governing Post Graduate Degree in Ayurveda

AYURVEDA VACHASPATHI M.D./AYURVEDA DHANVANTRI M.S.

POST GRADUATE DEGREE COURSE IN AYURVEDA – 2014

(In conformity with “Indian Medicine Central Council (Post-Graduate Education Regulation, 2005” vide The Gazette of India Notification dated March 19, 2012)

INTRODUCTION

Revised Ordinance Governing Post Graduate Courses in Ayurveda Vachaspati (M.D. Ayurveda) & Ayurveda Dhanvantri (M.S. Ayurveda) in conformity with “Indian Medicine Central Council (Post-Graduate Education Regulation, 2005” vide The Gazette of India Notification dated 4th February 2005 was notified on 15th March 2006 by Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore. This was effective from 2005-2006 onwards.

Central Council of Indian Medicine, by the Notification published in The Gazette of India on 19th March 2012, in supersession of the earlier (Post Graduate Education) Amendment Regulations, 2005. In view of this, RGUHS has published a fresh “Ordinance called Ayurveda Vachaspathi M.D./Ayurveda Dhanvantri M.S. Post Graduate Degree Course in Ayurveda-Revised Ordinance 2014” in this volume. It contains section I, describing regulation pertaining to the PG course. This volume should be read with the earlier regulations i.e., Revised Ordinance Governing Ayurveda Vachaspati MD(Ay)/MS(Ay) PG degree courses in Ayurveda - 2002, and 2006 because Goals and Objectives of the course are given in section II, course Description for various subject except Shalakyta tantra given in section III, Monitoring Learning Progress given in section 4, Ayurveda Ethics given in section IV, of Revised Ordinance Governing Ayurveda Vachaspati MD(Ay)/MS(Ay) PG degree course in Ayurveda – 2002 & 2006 continue to be in force.

SECTION I
REGULATIONS

1. Title of Course & Post-graduate Specialities

a. Branches of Specialities in which Post-graduate degree can be conducted:- The Post-graduate degrees may be allowed in following specialities

Sl. No.	Name of Specialty	Nearest terminology of modern subject	Department in which PG degree can be conducted
1	Ayurveda Samhita & Siddhant	Ayurved Samhita & Basic Principles of Ayurveda	Samhita & Basic Principles of Ayurved
2	Rachna Sharira	Anatomy	Rachana Sharira
3	Kriya Sharira	Physiology	Kriya Sharira
4	Dravyaguna Vigyana	Materia medica & Pharmacology	Dravyaguna Vigyana
5	Rasa Shastra & Bhaisajya Kalpana	Ayurveda Pharmaceuticals	Rasa Shastra & Bhaisajya Kalpana
6	Prasuti & Stri Roga	Obstetrics & gynecology	Prasuti & Stri Roga
7	Kaumarbhritya – Bala Roga	Pediatrics	Kaumarbhritya – Bala Roga
8	Swastavritta & Yoga	Preventive Social Medicine & Yoga	Swastavritta & Yoga
9	Kayachikitsa	Medicine	Kayachikitsa
10	Rasayana & Vajikaran	Rasayana & Vajikaran	Kayachikitsa
11	Mano Vigyan Avum Manas Roga	Psychiatric	Kayachikitsa
12	Rog Nidan Avum Vikriti Vigyan	Pathology & Diagnostic Procedure	Rog Nidan Avum Vikriti Vigyan
13	Chhaya Avum Vikiran Vigyan	Imaging and Radio Diagnosis	Rog Nidan Avum Vikriti Vigyan
14	Shalya Samanya	General surgery	Shalya

15	Shalya – Kshar Karma Avum Anushastra Karma	Surgery in Kshar Karma and Para Surgical measures	Shalya
16	Sangyaharana	Anesthesiology	Shalya
17	Ashti Sandhi & Marmagata Roga	Orthopedics	
18	Netra Roga	Ophthalmology	Shalakya
19	Karna, Nasa, Kantha & Shiroroga	ENT & Head	Shalakya
20	Danta Avum Mukha Roga	Dentistry and Oral Disease	Shalakya
21	Panchakarma	Panchakarma	Panchakarma
22	Agad Tantra Avum Vidhi Vigyan	Toxicology & Forensic Medicine	Agad Tantra

b. The nomenclature of Post-graduate degree in respective specialties shall be as follows:-

Sl. No.	Name of Specialty	Abbreviation
1	Ayurveda Vachasaspati - Ayurveda Samhita & Siddhant	M.D. - Ayurved Samhita & Basic Principles of Ayurveda
2	Ayurveda Vachasaspati - Rachna Sharira	M.D. – Anatomy
3	Ayurveda Vachasaspati - Kriya Sharira	M.D. – Physiology
4	Ayurveda Vachasaspati - Dravyaguna Vigyana	M.D. - Materia medica & Pharmacology
5	Ayurveda Vachasaspati - Rasa Shastra & Bhaisajya Kalpana	M.D. - Ayurveda Pharmaceuticals
6	Ayurveda Dhanvantri - Prasuti & Stri Roga	Obstetrics & gynecology
7	Ayurveda Vachasaspati - Kaumarbhritya – Bala Roga	M.D. – Pediatrics

8	Ayurveda Vachasaspati - Swastavritta & Yoga	M.D. - Preventive Social Medicine & Yoga
9	Ayurveda Vachasaspati – Kayachikitsa	M.D. – Medicine
10	Ayurveda Vachasaspati - Rasayana & Vajikaran	M.D. - Rasayana & Vajikaran
11	Ayurveda Vachasaspati - Mano Vigyan Avum Manas Roga	M.D. – Psychiatric
12	Ayurveda Vachasaspati - Rog Nidan Avum Vikriti Vigyan	M.D. - Pathology & Diagnostic Procedure
13	Ayurveda Vachasaspati - Chhaya Avum Vikiran Vigyan	M.D. - Imaging and Radio Diagnosis
14	Ayurveda Dhanvantri - Shalya Samanya	M.S. - General surgery
15	Ayurveda Dhanvantri - Shalya – Kshar Karma Avum Anushastra Karma	M.S. - Surgery in Kshar Karma and Para Surgical measures
16	Ayurveda Dhanvantri – Sangyahaarana	M.S. – Anesthesiology
17	Ayurveda Dhanvantri - Ashti Sandhi & Marmagata Roga	M.S. - Orthopedics
18	Ayurveda Dhanvantri - Netra Roga	M.S. – Ophthalmology
19	Ayurveda Dhanvantri - Karna, Nasa, Kantha & Shiro Roga	M.S. - ENT & Head
20	Ayurveda Dhanvantri - Danta Avum Mukha Roga	M.S. - Dentistry and Oral Disease
21	Ayurveda Vachasaspati – Panchakarma	M.D. – Panchakarma
21	Ayurveda Vachasaspati - Agad Tantra Avum Vidhi Vigyan	M.D. - Toxicology & Forensic Medicine

*The PG degree holder in the old nomenclature will be appointed in the concerned department like holder of Kriya Sharir (Dosha Dhatu malvigyan) in the department of kriya Sharir and PG holder of Kriya Sharir will be appointed on the basis of teaching experience in kriya Sharir. Similarly, holder of PG of newly developed specialty will be considered for appointment in their basic department mentioned under provision ‘2’ of the Regulations.

2. Eligibility for Admission

A person possessing a degree in Ayurveda of a University or Board or Medical institution specified in the Second Schedule of Indian Medicine Central Council Act 1970 shall be eligible for admission to Post-graduate degree course.

Further, sponsored/deputed candidate (Ayurveda Teachers or Physicians) will be required to possess qualification essential for admission.

Only those who have passed all the examinations at degree level in first attempt shall be eligible for admission.

3. Mode of admission

- 1) The University shall constitute an admission Committee, which shall supervise the admission procedure.
- 2) Selection of candidates shall be made strictly on the basis of final merit index calculated out of total of 100 marks based on written test.
- 3) The written test of 100 Marks shall consist of one common written test of MCQ.
- 4) The minimum eligibility marks of the entrance test for admission in the case of general candidates shall be 50 percent of the total marks and in case of candidates belonging to the Schedule Castes, Scheduled Tribes and regular Government service candidates shall be 40 percent.
- 5) The sponsored/deputed candidates shall also be required to possess the percentage of marks specified under sub-regulation (4) mentioned above except foreign nationals.
- 6) Reservation of all categories shall be applicable as per State Government/Central Government policies
- 7) Change of subject shall be permissible within a period of two months from the date of admission, subject to availability of vacancy and guide in the concerned Department.

4. Obtaining Eligibility Certificate

No candidate shall be admitted to any Post-graduate degree course in Ayurveda, unless the candidate has obtained and produced eligibility certificate issued by the University. The candidate has to make an application to the University with following documents along with prescribed fee:-

- 1) B.A.M.S. pass or degree certificate issued by the University.
- 2) Marks card of all University examinations passed (First to Final year of B.A.M.S. Course)
- 3) Attempt certificate issued the Principal.
- 4) Certificate regarding the recognition of College by CCIM.
- 5) Completion of internship certificate from a recognized institution.
- 6) Registration by State of Ayurveda practitioners registration Board/Ayurveda Council.
- 7) Proof of SC/ST or Category I, as the case may be.

Candidates should obtain the eligibility certificate before the last date for the admission as notified by the University. A candidate who has been admitted to the Post-graduate degree course shall register his/her name in the University within a month after paying the registration fee.

5. Intake of students

The intake of students to each course shall be in accordance with the Regulations of the CCIM.

6. Period of study and attendance

- a. The student shall have to undergo the study for a period of three years after the admission.
- b. The student pursuing Post-graduate degree should work in the concerned department of the institution for the full period as full time student. No candidate is permitted to run a clinic or work in other clinic or laboratory or Nursing home or medical centers while studying in the post-graduate course. No candidate should join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of studying this course.
- c. The student should attend the hospital and other duties as may be assigned to them during the course of study.
- d. The student should do house job duties and Clinical registrar's duties in their respective departments during preliminary and final course.
- e. The student should attend special lectures, demonstrations, seminars, study tours and such other activities as may be arranged by the teaching department.
- f. The student should attend a minimum of 80% of training in each subject in all theory and practical classes separately during each academic year of the course.

7. Method of training:-

1. Intensive training shall be provided on classical knowledge along with comparative and critical study in the respective specialty.
2. The emphasis shall be given on intensive applied and hand on training.
3. The students shall have to acquire the knowledge about the methods and techniques of research in respective fields making use of information technology.
4. In clinical subjects the students shall undertake responsibility in management and treatment of patients independently and deal with emergencies.
5. The students shall undertake training in teaching technology and research methods and shall have to participate in the teaching and training programs of under graduate students or interns in the respective subjects during the course of studies.
6. In the first year of the course, the students shall have to acquire knowledge in the applied aspects of the fundamentals of Ayurveda.
7. In clinical training the student shall have to acquire the knowledge of independent work as specialist.

8. In the specialties of Shalya, Shalakyia and Prasuti & Stri Roga the student shall have to undergo training of investigative procedures, techniques and surgical performance of procedures and management in the respective specialty.

8. Medium of Instruction:-

Medium of instruction shall be in English with a working knowledge of Sanskrit.

9. Monitoring Progress of Studies:-

Every candidate shall maintain a work diary and record of his/her participation in training programmes conducted by the department such as journals reviews, seminars, etc. (please see section IV for model checklist and log book specimen copy). The work diary shall be scrutinized and certified by the Head of the Department and head of the institution, and presented in the university practical examination, if called for. Special mention may be made of the presentations by the candidate as well as details of experiments or laboratory procedures conducted by the candidate. The presentation will be assessed by the faculty members and peers using relevant checklist given on section IV.

10. Vacation:

There will a vacation of 15 days with stipend at the end preliminary examination only. In addition to the vacation, each student is eligible for 12 days casual leave with stipend. Any leave enjoyed without prior approval or in excess limit mentioned above shall be treated, as willful absence and no stipend will be granted for such period.

11. Study tour:-

2nd year Students of Non-clinical subject PG courses should undertake study tour based upon the subject & its requirement as decided by the HOD of the concerned department. Such students should be accompanied by one Departmental teaching staff. Students who undertake such tour should submit a report of such study tour to the Department.

12. Dissertation

1. The title of dissertation along with synopsis, with approval of the ethics committee constituted by the institute as per regulations of concerned university, shall be submitted to the university with in a period of six months from the date of admission to PG course.
2. If the student fails to submit the title of dissertation and synopsis within the period specified under sub regulation (1) as above, his term for final exams will be extended for six months or more in accordance with time of submission of the synopsis to the university.
3. The synopsis of the proposed scheme of work should indicate the familiarity of the student with proposed theme of work, the name of the department and the

name and designation of the the guide or supervisor and co-guide, if any. The university should approve the synopsis not later three months after submission of the synopsis.

4. For approving the title, a scrutiny committee shall be constituted by the university.
5. The university should display the approved synopsis on its website.
6. The subject of every dissertation shall be research, practical oriented, innovative and helpful in the development of Ayurveda. **The subject of the dissertation shall be related to the subject matter of the respective specialty.**
7. Once the title for the dissertation is approved by the scrutiny committee of the university, the student shall not be allowed to change the title of the proposed theme work without permission of the university.
8. No students shall be allowed to submit the dissertation before six months of the final year. However, the student shall continue his or her regular study in the institution after submission of dissertation to complete three years.
9. The dissertation shall contain the methods and data of the research carried out by the student on the problem selected by him and completed under the guidance of the teacher approved by the universality.
10. The dissertation shall consist critical review of literature, methodology, results of the research, discussion on the basis of research findings of the study summary conclusion. And references cited in the dissertation should be suitable for the publication.
11. The dissertation shall consist of not less than forty thousand words.
12. The dissertation shall contains, at the end, a summary of not more than one thousand five hundred words and the conclusion not exceeding one thousand words.
13. The **Guide** shall be a person of status of a Professor or a Reader/ Asst. Professor, Lecturer with **minimum five** years university approved teaching experience in the concerned subject or three years as Co-guide.
14. A **Co-guide** may be included provided the work requires substantial contribution from a sister department or from other institution recognized for teaching or training by RGUHS. The Co-guide shall be recognized Post-graduate teacher of RGUHS.
15. Five copies of the bound dissertation along with a certificate from the Guide should reach the office of the registrar of the university six months before the final examination.
16. The dissertation shall be valued by two external and two internal examiners appointed by the university.
17. Approval of dissertation work is an essential precondition for a candidate to appear for the final examination. The dissertation shall be accepted only after approval of the four examiners appointed and in case of disapproval by one examiner, the same shall be referred to fifth examiner. If it is not approved by the fifth examiner also, the same shall be returned to the student with the remarks of the examiner and the student can resubmit the dissertation after

making the necessary improvement in the light of examiner's report to the university within a further period of six months.

18. If the dissertation is not accepted by two examiners, the same shall be returned to the student with the remarks of the examiners and the student can resubmit the dissertation after making the necessary improvement in the light of examiners report to the university within a further period of six months.

19. **The dissertation should be written under the following headings:**

Introduction

Aims and Objectives of study

Review of literature

Methodology (Materials & Methods)

Results

Discussions

Summary

Conclusion

Bibliography/References

Annexures

Guide Students ratio:-

The teacher student ratio shall be such that the number of post graduates teachers to the number of post graduate students admitted per year is maintained at 1:3 in case of Professor 1:2 in case of Reader/Asst. Professor and 1:1 in case of Lecturer having **minimum 5 years** concerned PG subject teaching experience.

Change of Guide

In the event of a registered guide leaving the college for any reason including transfer or in the event of death of guide, guide may be changed with prior permission from the university.

13. Scheme of Examination

1. The post graduate degree course shall have two examinations in the following manners:-
 - a. The preliminary examination shall be conducted at the end of one year after admission;

- b. The final examination shall be conducted on completion of three academic years after the admission to PG course;
 - c. Examination ordinarily held in the month of June or July and November or December every year;
 - d. For being declared successful in the examination, students shall have to pass all the subjects separately in the preliminary examinations;
 - e. The post-graduate degree shall be conferred after the dissertation accepted and the student passes the final examination.
2. The examination shall be aimed to test the clinical acumen, ability and working knowledge of the students in practical aspect of the specialty and his/her fitness to work independently as specialist.
 3. The clinical examination shall aim at a careful assessment of the competence of the student, so that his/her familiarity with Ayurveda and scientific literature in the specialty could be judged.
 4. The viva-voce part of the practical examination shall involve extensive discussion on any aspect of subject/specialty.

Eligibility for attending the examination

The following requirements shall be fulfilled by every candidate to be eligible to appear for preliminary or final examinations:

- I. Every candidate shall fulfill the attendance prescribed by the university during each academic year of the post graduate course.
- II. Progress and conduct: every candidate shall have participated in the seminars, journal review meeting, symposia, conference, case presentation, clinics/ practicals and lectures during each year as designed by the concerned department.
- III. Work diary/ log book: every candidate shall maintain a work diary and log book for recording his/her participation in the training program conducted by the department.
- IV. The work diary and log book shall be verified and certified by the head of the department and head of the institution (please see section IV for model checklist and log book specimen copy). The certification of satisfactory progress shall be issued by the head of the department.

14. Schedule for Examination – for First year (Preliminary) & Final year PG Course:-

There shall be two examinations as follows:

- 1) Preliminary examination** shall be conducted at the end of the one year after commencement of the course as notified in the calendar of events issued by the University.

Subjects for Preliminary examinations:

Paper- I Part A: Research methodology & Part B: Biostatistics – The number of teaching hours and allotment of marks for theory examination shall be as per revised CCIM syllabus for Preliminary subjects as given here under Section III.

. Practical examination shall be conducted as class examination by the respective institution and the results of the same shall not be considered for the preliminary examination.

Paper – II with Part-A & Part-B: Applied aspects and basics of concerned Subject as per CCIM revised syllabus as given here under section III. The number of teaching hours for theory shall be 100 hours and practicals shall be 100 hours in an academic year. Allotment of marks for theory and practicals/Clinical & Viva voce examination shall be as per revised CCIM syllabus for Preliminary subjects as given here under Section III.

2) Final examination shall be conducted on completion of two academic years after passing preliminary examination.

The university shall conduct two examinations. Not more than two examinations shall be conducted in an academic year.

The student shall have to publish at least one Research paper on the basis of his dissertation in one Journal and one paper presentation in Regional level seminar.

The total theory classes in Paper-I, Paper-II, Paper-III, Paper-IV shall be 100 hours each. The total number of Practical/Clinics classes in 2nd year & 3rd year shall be 200 hours each year.

Examinations in any branch of study shall consist of
(a)Dissertation, (b)written paper (Theory),
(c)Practical/Clinical and Viva voce.

(a) Dissertation: Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

(b)Written Examination (Theory): Written examination shall consist of four question papers pertaining to Paper-I, Paper-II, Paper-III & Paper-IV each of three hours duration. Total marks for each paper will be 100. There shall be 2 long essay questions each carrying 20 marks and 6 short essay questions each carrying 10 marks.

(c) Practical / Clinical and Viva voce Examination:

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures. It should also aim at testing student's ability to make relevant and valid observations, interpretation and inference of laboratory or experimental or clinical work relating to his/her subject for undertaking independent work as a specialist.

The actual format of Practical/clinical and Viva voce examination & distribution of marks for each specialty subject is given in the syllabus of CCIM and the same has to be followed.

15. Appointment of Examiners:-

The Preliminary examination shall be conducted by two examiners, one internal and one external both for theory and Practical/Viva voce examinations.

The final examination shall be conducted by a team of 4 examiners (Retired or serving) out of which two shall be external & two shall be internal examiners who should be possessing the post of Professor or Reader/Asst. Professor level or a Lecturer having minimum 8 years PG teaching experience.

16. Criteria for declaring results

Classification of results in preliminary examination shall be as follows:-

- Below 50% - Fail
- 50% and above - Pass

Classification of results in Final year examination shall be as follows:-

- Below 50% - Fail
- 50-59% aggregate in theory and practicals/clinical and viva voce: Grade-C
- 60-74% aggregate in theory and practicals/clinical and viva voce: Grade-B
- 75% and above aggregate in theory and practicals/clinical and viva voce: Grade-A

Number of chances for appearing final year examination

Failed students in the preliminary examination should pass in all subjects before taking up the final year examination. Otherwise the student shall not be allowed to take up the final year examination.

Failed students in the final year examination will have maximum of three consecutive chances to appear for the examination for pass. If the dissertation has been approved and the student fails in theory or practical in the examination, he/she can appear in the subsequent examination without requiring to submit a fresh dissertation.

SECTION II

GOALS AND OBJECTIVES OF THE COURSES

The same contents given in Section II of Revised Ordinance Governing Ayurveda Vachaspathi MD (Ay) / MS (Ay) PG degree courses in Ayurveda 2002 of RGUHS shall continue to be in force.

SECTION III

Syllabus

SYLLABUS FOR FIRST YEAR PG COURSE

CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

SYLLABUS FOR POST – GRADUATE COURSE IN AYURVED

Preliminary Examination

I. <u>RESEARCH METHODOLOGY AND BIOSTATISTICS</u>	2-10
II. CONCERN SUBJECT :-	
1. <u>AYURVED SAMHITA & SIDDHANTA</u>	11-12
2. <u>RACHANA SHARIR</u>	13-14
3. <u>KRIYA SHARIR</u>	15-17
4. <u>DRAVYAGUNA VIGYAN</u>	18-20
5. <u>RASA SHASTRA & BHAISHAJYA KALPANA</u>	21-24
6. <u>AGADA TANTRA EVUM VIDHI VAIDYAKA</u>	25-27
7. <u>SWASTHAVRITTA</u>	28-30
8. <u>ROGANIDAN EVUM VIKRITI VIGYAN</u>	31-32
9. <u>CHHAYA EVUM VIKIRAN VIGYAN</u>	33-35
10. <u>KAYACHIKITSA</u>	36-37
11. <u>MANOVIGYAN EVUM MANASROGA</u>	38-40
12. <u>RASAYAN & VAJIKARAN</u>	41-42
13. <u>PANCHKARMA</u>	43-44
14. <u>PRASUTI EVUM STRI ROGA</u>	45-46
15. <u>KAUMARBHRITYA-BALA ROGA</u>	47-48

<u>16. SHALYA -SAMANYA</u>	49-51
<u>17. SHALYA - KSHAR EVUM ANUSHASTRA KARMA</u>	52-54
<u>18. ASTHI SANDHI AND MARMAGAT ROGA</u>	55-57
<u>19. SANGYAHARAN</u>	58-59
<u>20. SHALAKYA - NETRA ROGA</u>	60-61
<u>21. SHALAKYA – DANTA EVUM MUKHA ROGA</u>	62-63
<u>22. SHALAKYA- SHIRO-NASA-KARNA EVUM KANTHA ROGA</u>	64-65

PG 1st Year Syllabus-1

M.D./M.S.-AYURVEDA PRELIMINARY

PAPER-I

RESEARCH METHODOLOGY AND MEDICAL STATISTICS

PART-A

RESEARCH METHODOLOGY

60 Marks

Teaching hours 120

1 Introduction to Research

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

2 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.

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

4. Scientific writing and publication skills.

- 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)

5. 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

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

PG 1st Year Syallabus-2

7. Different fields of Research in Ayurveda

Fundamental research on concepts of Ayurveda

- 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.

8. 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.

9. 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).

10. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies.

Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.

11. 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

12. 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.

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

National Pharmacovigilance Programme for ASU drugs.

14. Introduction to bioinformatics, scope of bioinformatics, role of computers in

biology. Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases.

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

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, Kruskal – 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

PG
1st
Year
Syllabus-
4

PRACTICAL

100 marks

I. 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)

4 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

5 Pharmacology and toxicology

Familiarization and demonstration of techniques related to pharmacology and toxicology

6 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.

7 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.

8 **Imaging Sciences**

Familiarization and demonstration of techniques related to the imaging techniques.

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

9 **Clinical protocol development**

PG 1st Year Syallabus-5

II. MEDICAL STATISTICS

Practical hours:20

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 |

REFERENCE BOOKS:-

Pharmacognosy:

1. Aushotosh Kar “Pharmacognosy & Pharmacobiotechnology” New Age International Publisher. Latest Edition. New Delhi.
2. Drug Survey by Mayaram Uniyal
3. Fahn A (1981). Plant Anatomy 3rd Edition Pergamon Press, Oxford
4. Kokate, CK., Purohit, AP, Gokhale, SB (2010). Pharmacognosy. Nirali Prakashan. Pune.
5. Kokate, CK., Khandelwal and Gokhale, SB (1996). Practical Pharmacognosy. Nirali Prakashan. Pune.
6. Trease G E and Evans W C, Pharinacognosy, Bailliere Tindall, Eastbourne, U K.
7. Tyler V C., Brady, L R., and Robers J E., Pharmacognosy, Lea and Febiger, Philadelphia.
8. Tyler VE Jr and Schwarting AE., Experimental Pharmacognosy, Burgess Pub. Co, Minneapolis, Minnesota.
9. Wallis- TE (2011)- reprint. Practical Pharmacognosy (Fourth Edition) Pharma Med Press, Hyderabad.
10. Wallis T E, Analytical Microscopy, J & A Churchill limited, London.
11. Wallis T E., Text Book of Pharmacognosy, J & A Churchill Limited, London.
12. WHO guidelines on good agricultural and collection practices- (GACP) for medicinal plants

- (2003). World Health Organization- Geneva.
13. WHO monographs on selected medicinal plants (1999)—Vol. 1. 1.Plants, Medicinal 2.Herbs
3.Traditional medicine. ISBN 92 4 154517 8. WHO Geneva.

PG 1st Year Syallabus-6

Pharmaceutical chemistry, quality control and drug standardization:

1. Ayurvedic Pharmacopoeia of India. Part I- volume 1 to 8 and Part II- volume 1to 3. Ministry of Health and Family Welfare. Controller of Publication. Govt of India. New Delhi.
2. Brain, KR and Turner, TD. (1975). The Practical Evaluation Phytopharmaceuticals. Wright Scientechnica, Bristol.
3. Galen Wood Ewing (1985). Instrumental Methods of Chemical Analysis. McGraw-Hill College ; Fifth edition
4. Harborne, JB (1973). Phytochemistry Methods. Chapman and Hall, International Edition, London.
5. HPTLC- Fingerprint atlas of Ayurvedic Single Plant Drugs mentioned in Ayurvedic Pharmacopoeia Vol- III and IV. CENTRAL COUNCIL FOR RESEARCH IN AYURVEDA AND SIDDHA. New Delhi.
6. Kapoor, RC (2010). Some observations on the metal based preparations in Indian System of Medicine. Indian Journal of Traditional Knowledge. 9(3): 562-575
7. Khopkar, S. M. Analytical Chemistry, New Age International Publishers , 3 rd edition
8. Laboratory Guide for- The Analysis of Ayurved and Siddha Formulations – CCRAS, New Delhi.
9. Mahadik KR, Bothara K G. Principles of Chromatography by, 1st edition, Nirali Prakashan.
10. Qadry JS and Qadry S Z., Text book of Inorganic Pharmaceutical and Medicinal Chemistry, B. S. Shah Prakashan, Ahmedabad.
11. Quality Control Methods for Medicinal Plant Material. Reprint (2002). WHO- Geneva.
12. Rangari V.D., Pharmacognosy & Phytochemistry, Vol I, II, Career Publication,
13. Sharma BK. Instrumental Methods of Chemical Analysis by, Goel Publishing House.
14. Srivastav VK and Shrivastav KK. Introduction to Chromatography (Theory and Practice)
15. Stahl E., Thin Layer Chromatography - A Laboratory Handbook, Springer Verlag, Berlin.
16. Sukhdev Swami Handa, Suman Preet Singh Khanuja, Gennaro Longo and Dev Dutt Rakesh (2008). Extraction Technologies for Medicinal and Aromatic Plants -INTERNATIONAL CENTRE FOR SCIENCE AND HIGH TECHNOLOGY- Trieste,

Biochemistry and Laboratory techniques:

1. Asokan P. (2003) Analytical Biochemistry, China publications,
2. Campbell, P.N and A.D .Smith, Biochemistry Illustrated, 4th ed, Churchill Livingstone.
3. David Frifelder. W. H. Freeman. (1982). Physical Biochemistry by; 2 edition
4. David Sultan (2003).Text book of Radiology and Imaging, Vol-1, 7th Edition.
5. Deb, A.C., Fundamentals of Biochemistry, Books and Allied (P) Ltd, 2002.
6. Harold Varley. Practical Clinical Bio-chemistry
7. Kanai L.Mukherjee. Clinical Pathology:.,Medical Laboratory Technology Vol. I.Tata McGrawHill 1996, New Delhi.
8. Gradwohl, Clinical Laboratory-methods and diagnosis, Vol-I
9. Clinical Biochemistry -Sabitri Sanyal, Clinical Pathology, B.I.Churchill Livingstone (P) Ltd, New Delhi.2000.
10. Satyanarayanan,U. Essentials of Biochemistry, Books and allied(P) Ltd.2002
11. Zubay, G.L. Biochemistry, W.M.C. Brown Publishers, New York 1998.
12. Text book of Radiology and Imaging, Vol-1, David Sultan, 7th Edition. 2003.

Research methodology:

1. Alley, Michael. The craft of scientific writing. Englewood Cliffs. N.N. Prentice 1987.
2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
3. Altick and Fenstermaker. (2007).*The Art of Literary Research*. 4th ed. W. W. Norton. Castle, Gregory. *Blackwell Guide to Literary Theory*. Blackwells,
4. Bowling, A. (2002). *Research Methods in Health* (2nd ed). Buckingham: Open University Press.
5. Day R.A. How to write a scientific paper. Cambridge University Press.
6. Cooray P.G. Guide to scientific and technical writing.
7. Deepika Chawla and Neena Sondhi. (2011). *Research Methods- Concepts and cases*. New Delhi: Vikas Publishing House.
8. Greenhalgh, T. (2006) *How to Read a Paper: The Basics of Evidence-Based Medicine*. (3rd ed) Blackwell
9. Kothari- CR (2004). *Research Methodology- Methods and Techniques* (Second Revised Edition). New Age International Publishers- New Delhi.
10. Kumar, R. 2005. *Research Methodology: a Step-by-Step Guide for Beginners, 2nd ed*. Thousand Oaks, CA, London: Sage Publications.
11. Petter Laake, Haakon Breien Benestad and Bjørn Reino Olsen. (2007). *Research Methodology in the Medical and Biological sciences*. Academic Press is an imprint of Elsevier, 84 Theobald's Road, London WC1X 8RR, UK. ISBN: 978-0-12-373874-5
12. Relevant portions of Ayurvedic Samhitas and other texts

Drug research and development:

1. RICK NG, (2009). *DRUGS- from discovery to approval*. John Wiley & Sons, Inc., Hoboken, New Jersey
2. *Research guidelines for evaluating the safety and efficacy of herbal medicines*. (1993). . WHO- (Regional Office for the Western Pacific – Manila) ISBN 92 9061 110 3 (NLM Classification: WB 925).
3. Jagdeesh, Sreekant Murthy, Gupta, YK and Amitabh Prakash Eds. *Biomedical Research (From Ideation to Publication)* (2010). Wolters Kluwer/ Lippincott Williams and Wilkins.
4. WHO Guidelines on Safety Monitoring of herbal medicines in pharmacovigilance systems. (2004). WHO- Geneva. ISBN 92 4 1592214.
5. *Natural products isolation*. (2006) 2nd ed. / edited by Satyajit D. Sarker, Zahid Latif, Alexander I. Gray. (Methods in biotechnology; 20). Includes bibliographical references and index. Humana Press Inc. ISBN 1-58829-447-1 (acid-free paper) – ISBN 1-59259-955-9 (eISBN)
6. Gazette Extraordinary Part- II-Section 3 - Sub section (i) December 2008. Govt of India. AYUSH Guidelines on safety studies- Rule 170 of Drugs and Cosmetics Act.
7. OECD (2000) Guidance Document on Acute Oral Toxicity. Environmental Health and Safety Monograph Series on Testing and Assessment No 24.
8. OECD Guideline for the Testing of Chemicals – Repeated Dose 90-day Oral Toxicity Study in Rodents, 408, 1998.<http://browse.oecdbookshop.org/oecd/pdfs/free/9740801e.pdf> (latest version)
9. OECD Series on Principles of Good Laboratory Practice (GLP) and Compliance Monitoring, 1998. http://www.oecd.org/document/63/0,2340,en_2649_34381_2346175_1_1_1_1,00.html
10. ICH Harmonised Tripartite Guideline (2000). Maintenance of the ICH Guideline on Non-clinical Safety Studies for the conduct of Human Clinical Trials for Pharmaceuticals M3 (R1).
11. Ghosh M.N.: *Fundamentals of Experimental Pharmacology*, *Scientific Book Agency*.
12. *Bombay.*

- 12- Jaju B.P.: Pharmacological Practical Exercise Book, *Jaypee Brothers, New Delhi.*
- 13- Kulkarni S.K.: Hand Book of Experimental Pharmacology, *Vallabh Prakashan, New Delhi*
- 14- Ravindran R.: X-Pharm (Software), Indian Journal of Pharmacology, *JIPMER, Pondicherry.*

PG 1st Year Syallabus-8

Biotechnology and Bio-informatics:

1. Angela M. Meireles A (2009). Extracting Bioactive compounds for food products. Theory and applications. CRC-Press Taylor and Francis Group.
2. Bergeron BP 2002 Bioinformatics Computing 1st Edition, Prentice Hall
3. Chikhale, N.J. and Virendra Gomase, Bioinformatics- Theory and Practice, Publisher: Himalaya Publication House, India; 1 edition (July, 2007) ISBN-13: 978-81-8318-831-9
4. Lesk, A.M. Introduction to Bioinformatics Oxford 2002.
5. Satyanarayana, U.: Biotechnology, Books and Allied (P) Ltd, Kolkata, 2005
6. Setubal J. C and J. Meidanis, Introduction to Computational Molecular Biology, PWS Publishing Company, 1997.
7. <http://www.iitb.ac.in/~crnts>.
8. <http://www.zygogen.com>.
9. <http://www.dsir.nic.in/reports/tifp/database/metallo.pdf>.
10. www.consort-statement.org
11. www.strobe-statement.org
12. www.icmr.nic.in

Clinical Evaluation:

1. CDSCO, Good Clinical Practices For Clinical Research in India, Schedule Y (Amended Version – 2005), <http://cdsco.nic.in/html/GCP1.html>
2. Ethical Guidelines for Biomedical Research on Human subjects. (2000). Indian Council of Medical Research- New Delhi.
3. Gallo P., Chuang-Stein C., Dragalin V., Gaydos B., Krams M., Pinheiro J. Adaptive Designs in Clinical Drug Development—An Executive Summary of the PhRMA Working Group. *Journal of Biopharmaceutical Statistics*. 16: 275–283; 2006
4. Good Clinical Practices- (2001). Guidelines for Clinical Trial on Pharmaceutical Products in India. Central Drugs Standard Control Organization. Directorate General of Health Services. New Delhi. (<http://WWW.cdsco.nic.in.ich.org>)
5. Gupta, SK Ed. Basic Principles of Clinical Research and Methodology (2007). Jaypee Brothers- new Delhi
6. ICH Harmonised Tripartite Guidelines for Good Clinical Practices.(1997)- Quintles- Published by Brookwood Medical Publications. Richmond, Surrey. United Kingdom.
7. NCI. *Clinical Trials Education Series*. <http://www.cancer.gov/clinicaltrials/learning/clinical-trials-education-series>, 2001.
8. Petter Laake, Haakon Breien Benestad and Bjørn Reino Olsen. (2007). Research Methodology in the Medical and Biological sciences. Academic Press is an imprint of Elsevier, 84 Theobald's Road, London WC1X 8RR, UK. ISBN: 978-0-12-373874-5
9. William C. Scheffer Introduction to Clinical Researchs

Medical Statistics:

1. Armitage, P. and Berry, G. (1994) *Statistical Methods in Medical Research* (3rd ed). Blackwell Science.
2. Armitage P, Berry G, Matthews JNS: *Statistical Methods in Medical Research*. Fourth edition. Oxford, Blackwell Science Ltd; 2002
3. Bland, M. (2000) *An Introduction to Medical Statistics* (3rd ed). Oxford: Oxford University Press.
4. Bradford Hill – *Basic Medical Statistics*
5. Cambell, M.J. and Machin, D. (1993) *Medical Statistics: A Common Sense Approach* (2nd ed). Chester: Wiley.
6. Dwivedi S. N., Sundaram K. R and V. Sreenivas (2009). *Medical Statistics - Principles & Methods*-BI Publications Pvt. Ltd., New Delhi –1.
7. Gupta S.P. - *Fundamentals of statistics*, Sultan Chand. Delhi.
8. Indrayan. (2008). *Basic Methods of Medical Research*. AITBS Publishers- India
9. Mahajan B K, *Methods in Bio statistics for medical students*, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers
10. Mehdi, B and Prakash A. (2010). *Biostatistics in Pharmacology. Practical Manual in experimental and clinical pharmacology*. 1st Edition. New-Delhi: Jaypee brothers Medical Publishers
11. Rao, NSN and Murthy, NS. (2008) 2nd Edition. *Applied statistics in health sciences*. Jaypee Brothers Medical Publishers (P) Ltd. Bengaluru, New Delhi.
12. Rick J Turner and Todd A Durham (2008). *Introduction to Statistics in Pharmaceutical Clinical trails*. Published by the Pharmaceutical Press- An imprint of RPS Publishing, 1 Lambeth High Street, London SE1 7JN, UK
13. Symalan, K. (2006). *Statistics in Medicine (First Edition)* Trivandrum: Global Education Bureau.
14. Sundar Rao, Jesudian Richard - *An Introduction to Biostatistics*.
15. Suhas Kumar Shetty- *Medical statistics made easy*

M.D.-AYURVEDA PRELIMINARY

1. AYURVED SAMHITA & SIDDHANTA (Ayurvedic Compendia & Basic

Prin

ci

s)

PAPER-II

THEORY- 100 marks

PART-A

**Practical- Viva-Voce-100
50 marks**

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, reception (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

50 marks

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.

PG 1st Year Syallabus-11

1. REFERENCE BOOKS:-

1	Charak Samhita	Chakrapani commentary
2	Sushrut Samhita	Dalhana Commentary
3	Ashtanga Samgraha	Indu commentary
4	Ashtanga Hridaya	Arundutta and Hemadri commentary
5	Vaisheshika Darshan	Prashastapada Bhasya
6	Nyaya Darshan	Vatsyayan Bhasya Patanjala

7	Yoga Darshan	Vyas Bhasya
8	Vedantsara	
9	Sarvadarshan Samgraha	
10	Bhartiya Darshan	Baldev Upadhayaya
11	Ayurved Darshanam	Acharya Rajkumar Jain

PG 1st Year Syallabus-12

M.D.-AYURVEDA PRELIMINARY

RACHANA SHARIR

(Anatomy)

PAPER-II

Theory 100 marks

PART-A

50 marks

1. Basic principles of Sharira, Purushavichaya, Rashi Purusha, Karma Purusha (Shad Dhatuj Purusha), Chaturvimshati Purusha, Ek Dhatu Purusha. Relevant principles described in the Sharirasthan of Sushrut Samhita, Charak Samhita, Ashtang Sangrah and Ashtang Hridaya.
2. Basic principles of Garbha Sharira in Ayurveda: Definitions of Garbha, Shukra Shonita Siddhanta, Dauhrida, Matrijadi Garbhotpattikar bhava.
1. Types of tissues, histological study of liver, spleen, uterus, kidney, endocrine glands, mammary gland, skin, tongue, lungs, bronchi, bones, muscles, cartilages and nervous tissue.

PART-B

50 marks

Paribhasha Sharira (Anatomical terminology)

1. Pramana Sharira – Anguli and Anjali Pramana, Sama pramana Sharira, Ayama – Vistara and their prognostic values.
2. Fundamental aspects of Asthi, Sandhi, Peshi Sharir.
3. Fundamental aspects of Sira, Dhamani, Srotas – Definitions, Siravedha, Avedhya Sira. Fundamental aspect of Srotomoola Sthana.
4. Fundamental aspects of Koshtha and Koshthang: Hridaya, Yakrit, Vrikka, phupphusa, Aantra, Pleeha, Adhivrikkagranthi, Basti, Paurushagranthi, Amashaya, Agnyashaya and Vrishana.
5. Fundamental aspects of Uttamangiya Sharir – Introduction to Nervous system - development, divisions, neuron-structure, types, functional anatomy.
6. Mrita shodhan (as per Sushruta) and Mrita Samrakshana (preservation method of human cadaver).

PRACTICAL

100 marks

Contents:

1. Practical study of bones
2. Practical study of organs
3. Practical study of surface and radiological anatomy.
4. Shava Vichhedana – detailed dissection of the whole body.
5. Practical study of location of Marma
6. Demonstration of histology slides (10 slides)

PG 1st Year Syallabus-13

1. Distribution of marks (Practical)

1. Spotting - 20 Marks
2. Surface Anatomy - 20 Marks
3. Dissection - 30 Marks
4. Imaging Anatomy – Basic Principles and Application - 10 Marks
5. Viva-Voce - 20 Marks

REFERENCE BOOKS:

6. Relevant matters of Brihatrayee and Laghutrayee
7. PratyakshaShariram - GananathSen
8. AbhinavaShariram - Damodar Sharma Gaur
9. Parishadyam Sabdartha Shariram - Damodara Sharma Gaur
10. Brihat Shariram - P S Varier
11. Shiva Samhita
12. Gray's Anatomy - Latest Edition

13. Human Anatomy	- B D Chaurasia
14. Cunnigham's Companion to Manual of Practical Anatomy.Vol I, II & III	
15. Developing Human	- Keith L Moore & Persaud
16. Clinically oriented Anatomy	- Keith L Moore
17. Clinically oriented Neuro Anatomy	- Richard Snell
18. Surface and Radiological Anatomy	- Halim
19. Grant's Methods of Anatomy	- Grant
20. Grant's dissector	- Grant
21. Human Embryology	- I. B. Singh
22. Ayurvediya Human Anatomy	- G. M. Kanthi

PG 1st Year Syallabus-14

M.D.-AYURVEDA PRELIMINARY

3.KRIYA SHARIR

(Physiology)

PAPER-II

Theory 100 Marks

PART-A

50 marks

1. Theory of Loka-Purusha Samya
2. Theory of Panchamahabhuta
3. Physiological aspects of Samanya – Vishesha siddhanta
4. Concepts of Tridosha and Triguna
5. Concept of Dhatu
6. Concept of Mala
7. Description of Ojas
8. Process of Ahara Parinama including Aharaparinamakara Bhava and Asta Ahara Vidhi Visesayatana
9. Physiological importance of Agni, its classification and functions
10. Dhatuposana theories
11. Concepts of Atma, Manas and Indriya.
12. Concepts of Prakriti and Ashtavidha Sara.
13. Concept of Srotas

PART-B

50 marks

Description of essential and relevant understandings related to contemporary physiology, both general physiology and systemic physiology.

1. Essentials of cell physiology – organization of cell.
2. Membrane physiology- transport across cell membrane, action potentials and resting membrane potentials.
3. Homeostasis- negative and positive feedback mechanisms.
4. Genetic code, its expression and regulation of gene expression.
5. Essentials of cardiovascular physiology- cardiac cycle, regulation of heart rate and blood pressure.
6. Essentials of respiratory physiology- regulation of respiration-chemical and neural, gaseous exchange, transportation of gases.
7. Gastrointestinal physiology- various digestive juices and their actions, gastrointestinal hormones, enteric nervous system.
8. Nervous system physiology- ANS, somatic nervous system, reflexes, general and special sensations, higher mental functions, functions of brain, brainstem and spinal cord.
9. Blood: Blood cells-RBCs, WBCs, platelets, plasma proteins and immunity.
10. Muscle physiology: properties and mechanisms of contraction of skeletal, cardiac and smooth muscles.
11. Physiology of excretion- mechanism of urine formation, micturition.
12. Endocrine physiology: Classification of hormones, hormones secreted by pituitary, thyroid, parathyroid, adrenal glands, pineal, pancreas and their functions.

Study of male and female reproductive system: functions of reproductive hormones.

PG 1st Year Syallabus-15

PRACTICAL

100 marks

Contents:

Ayurvedic practicals

Assessment of Prakriti

Assessment of Sara

Pramana Pariksha

Hematology

Hemoglobin estimation

Total RBC count

Total WBC count

Differential leukocyte count

Packed cell volume (PCV)

ESR

Bleeding time

Clotting time

Blood grouping and Rh typing

Urine examination -

Physical examination- Specific gravity and reaction of urine

Chemical examination

Albumin test
Sugar test
Ketone bodies
Bile salts and pigments

Distribution of marks (Practical)

1. Laboratory Practical	- 20
2. Human Experiment	- 15
3. Spotting	- 15
4. Prakriti Saradi pariksha	- 20
5. Practical Record	- 10
6. Viva-voce	- 20

REFERENCE BOOKS:

1. Ayurvediya Kriyasharir	- Ranjit Rai Desai
2. Kayachikitsa Parichaya	- C. Dwarkanath
3. Prakrit Agni Vigyan	- C. Dwarkanath
4. Sharir Kriya Vigyan	- Shiv Charan Dhyani
5. Abhinava Sharir Kriya Vigyana	- Acharya Priyavrata Sharma
6. Dosha Dhatu Mala Vigyana	- Shankar Gangadhar Vaidya
7. Prakrita Dosha Vigyana	- Acharya Niranjana Dev
8. Tridosha Vigyana	- Shri Upendranath Das
9. Sharira Tatva Darshana	- Hirlekar Shastri
10. Prakrita Agni Vigyana	- Niranjana Dev
11. Deha Dhatvagni Vigyana	- Vd. Pt. Haridatt Shastri
12. Sharir Kriya Vigyana (Part 1-2)	- Acharya Purnchandra Jain
13. Sharir Kriya Vigyana	- Shri Moreshwar Dutta Vd.
14. Sharira Kriya Vijnana (Part 1-2)	- Nandini Dhargalkar
15. Dosha Dhatu Mala Vigyana	- Basant Kumar Shrimal

PG 1st Year Syallabus-16

16. Abhinava Sharir Kriya Vigyana	- Dr. Shiv Kumar Gaur
17. Pragyogik Kriya Sharir	- Acharya P.C. Jain
18. Kaya Chikitsa Parichaya	- Dr. C. Dwarkanath
19. Concept of Agni	- Vd. Bhagwan Das
20. Purush Vichaya	- Acharya V.J. Thakar
21. Kriya Sharir	- Prof. Yogesh Chandra Mishra
22. Sharir Kriya Vigyana	- Prof. Jayaram Yadav & Dr. Sunil Verma
23. Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by	-Dr. Srikant Kumar Panda
24. Sharir Kriya – Part I & II	- Dr. Ranade, Dr. Deshpande & Dr. Chobhe
25. Human Physiology in Ayurveda	- Dr Kishor Patwardhan

- | | |
|---|---------------------------------------|
| 26. Sharirkriya Vignyan Practical Hand Book | - Dr.Ranade, Dr.Chobhe, Dr. Deshpande |
| 27. Sharir Kriya Part 1&2 | - Dr.R.R.Deshapande, Dr.Wavhal |
| 28. Textbook of Physiology | - Gyton & Hall |
| 29. Review of medical physiology | - William Ganong |
| 30. Essentials Of Medical Physiology | - Sembulingam, K. |
| 31. Concise Medical Physiology | - Chaudhari, Sujit. K. |
| 32. Fundamental of Anatomy & Physiology | - Martini |
| 33. Principals of Anatomy & Physiology | - Tortora & Grabowski |
| 34. Human Physiology | - Richards, Pocock |
| 35. Samson Wrights Applied Physiology, Keele, Neil, joels | |
| 36. Brainstem Control of Wakefulness And Sleep | - Steriade, Mirce |
| 37. An Introduction to Human Physiology | - Green, J.h. |
| 38. Ancient Indian Medicine | - Kutumbiah P. |
| 39. Biographical History of Indian Medicine | - Srikanthamurthy KR |
| 40. Ayurveda Kriya Sharira | - Yogesh Chandra Mishra |
| 41. Textbook of Medical Physiology | - Indu Khurana |
| 42. Tridosha Theory | - Subrahmanya Shastri |
| 43. Statistics in Medicine | - K. Syamalan |

PG 1st Year Syallabus-17

M.D.-AYURVEDA PRELIMINARY
4. DRAVYAGUNA VIGYAN

**(Materia
Medica
&
Pharmac
ology)**

**PAPER-II
PART-A**

**Theory 100 Marks
50 marks**

1. Panchamahabhuta siddhanta, Samanya Vishesha siddhanta, Tridosha siddhanta. Extensive study on classifications of Dravya as described in Brihatrayi.
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 bhashaj 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 Bhashaj 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

100 marks

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 pharmacopoeial 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 pharmacopoeial standards and animal experimentations -10 Marks
4. Spotting -30 Marks
5. Viva-voce -20 Marks

REFERENCE BOOKS:

- 1 Abhinav Buti Darpan (Vol.1-2) - Vd. Roop Lal Vaishya
- 2 Aushadna Vigyna 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 Chuneekar
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 Kshetra - Vd. Shiv Kumar Vyas
Me Yogadana
- 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 Plants) - Dr. Prakash Pranjape
- 22 Glossry of Vegetable Drugs in Bhritrtrayis - Thakur Balwant Singh & Vd. Krishna
Chandra Chuneekar
- 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 Practice	-	Goodman & Gillman
28	Pharmacology and Pharmacotherapeutics	-	Satoskar Bhandarkar & Ainapure
29	Prayogatamaka Dravyaguna Vigyana	-	Dr. Maya Ram Uniyal
30	Priya nighantu	-	Acharya Priyavrata Sharma
31	Raspanchaka/Dravyaguna Siddhanta	-	Prof. Shivcharan Dhyan
32	System of Plant Nomenclature in Ayurveda	-	Dr. Gyanendra Panday
33	Text Book of Pharmacology	-	Trees & Valis
34	Textbook of Dravyaguna	-	Dr.K.Nishteswar
35	Unani Dravyaguna Vigyana	-	Hakim Daljeet Singh

PG 1st Year Syllabus-19

36	Useful parts of Charaka, Sushrut, and Vagbhata.	-	
37	Uttarakand Ki Vanaspatiya	-	Dr. Gyanendra Pandey
38	Vanoaushadi Darshika	-	Thakur Balwant Singh
39	Vanoaushadi Nidarshika	-	Dr. Ram Sushil Singh
40	Vedic Vanaspatiyan	-	Dr. Dinesh Chandra Sharma
41	Pharmacopia of India –all the volumes		
42	Database on medicinal plants all the volumes of CCRAS		
43	Aurveda formulary of india – all the volumes		
44	All the nighantoo		
45	Laghutrayi		

PG 1st Year Syallabus-20

M.D.-AYURVEDA PRELIMINARY
5. RASA SHASTRA AND BHAISHAJYA KALPANA
(Iatrochemistry & Pharmaceuticals Science)

PAPER-II

Theory 100 marks

PART-A

50 marks

1. Fundamental principles of Rasa Shastra and Bhaishajya Kalpana, introduction to Rasachikitsa, Ashuddha and Apakwa Bhasma- sevan Dosha and its management, introduction to Aushadha Sevan Kaal and Prayoga Marga (routes of administration).
2. Introduction to basic principles of Aushadha Yoga (formulations).
3. Classification of Rasa Dravya - concept and relevance.
4. Introduction to principles of Aushadha Nirmana, concept of Shodhan, Marana, Jarana, Murcchhana, Sattvapatan and Amritakarana.
5. Concept of Kashaya, Panchavidha Kashaya and other Kalpana.
6. Concept of Rasashala, Rasa Mandapa with introduction to pharmacy in accordance with the Good Manufacturing Practices (GMP).
7. Critical study of Rasa Ratnasamuchchaya, Rasendra Chintamani, Rasa Tarangini, Sharngadhara Samhita, Chakradutta and Bharat Bhaishajya Ratnakara with special reference to Aushadha-Nirmana.

PART-B

50 marks

1. Introduction to methods of analytical, toxicity, experimental and clinical validation of classical and proprietary Ayurvedic formulations.
2. Introduction to new dosage forms.
3. Introduction to advance instruments of analysis like XRD, XRF, SEM-E-Dax, ICP analysis, Chromatography: TLC, gas chromatography, HPTLC, concept of Nanotechnology and its relevance to Aushadha-Nirman.
4. Concept of Pharmacopoeia and Formulary with introduction of 'The Ayurvedic Pharmacopoeia of India' (API) and 'The Ayurvedic Formulary of India' (AFI).
5. Introduction to databases of medicinal plants published by CCRAS, ICMR and others.

PRACTICAL

100 marks

Contents:

1. Shodhan, Marana, Amritikarana of Rasa Dravya (10 practicals)
2. Preparation of different dosage forms (10 forms)
3. Pharmacopoeial standards of raw and prepared drugs (20 practicals)

Raw Materials

1. Minerals and Metals

Mineralogical Identification

Mineralogical

1. Physical form - Crystal and Amorphous
2. Hardness on Moh's scale
3. Brittleness test
4. Fracture and Cleavage
5. Streak test
6. Luster

PG 1st Year Syallabus-21

2. Plant Material

Macroscopic and Microscopic examination

- a. Orgnaoleptic testing
- b. Estimation of Foreign materials
- c. Microbial load
- d. Moisture content
- e. Determination of ash value - total, water soluble and acid Insoluble ash
- f. Specific gravity
- g. Solubility- water and alcohol
- h. Extract values- water and alcohol
- i. TLC
- j. Determination of optical density
- k. Refractive index
- l. Aflatoxins
- m. Limit tests for heavy metals
- n. pH estimation

Prepared dosage forms:

1. Solid dosage forms

Rasaushadhi

- a) Bhasma and Pishti Pariksha

- b) Determination of Particle size
- c) Limit tests for heavy metals
- d) Determination of moisture content, specific gravity, pH and acid value.

Kasthaushadhi

a. Powders (Churna)

1. Particle size
2. Bulk density
3. Solubility
4. Estimation of Foreign material
5. Microbial load
6. Moisture content
7. Determination of ash value - total, water soluble and acid insoluble ash
8. Solubility - water and alcohol
9. Extract values - water and alcohol
10. TLC
11. Determination of Optical density
12. Refractive Index
13. Aflatoxins
14. Limit tests for Heavy metals
15. pH Value estimation

b. Tablets

1. Uniformity in weight and size
2. Tablet hardness
3. Tablet friability
4. Tablet disintegration
5. Tablet dissolution

c. Semisolid dosage forms

- a. Moisture content
- b. Sugar content
- c. Microbial load

PG 1st Year Syallabus-22

d. Liquids

- pH value
- Specific gravity

- Determination of refractive index
- Acid value
- Viscosity
- Saponification value
- Iodine value

Note:

- All practicals should be performed in accordance with Authoritative Text Books of Schedule-I of D.C.Act-1940.
- All practicals related to Pharmacopoeial Standards should be performed in accordance with Methods Published in Protocol for testing of ASU Medicines and Laboratory Guidelines for the Analysis of Ayurveda & Siddha Formulations published by Deptt. of AYUSH, Government of India.

Distribution of marks (Practical)

- Practical Record Book - 10 Marks
- Practicals related to Preparation of Drugs
 - Major practical- one - 20 Marks
 - Minor practical- one - 10 Marks
- Drug analysis
 - Major practical- one - 20 Marks
 - Minor practical- one - 10 Marks
- Spotting - 10 Marks
- Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasapraksha Sudhakar
9. Rasamrita
10. Rasa Chandanshu : CCRAS Publication
11. Sharangadhara Samhita
12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Bharat Bhaishajya Ratnakara
18. Rasayoga Sagara
19. Siddha Bhaishajya Manimala
20. Sahasrayoga
21. Siddha Yoga Sangraha – Yadavaji Trikamji Acharya

22. Vaidyaka Paribhasha Pradeepa

PG 1st Year Syallabus-23

23. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
24. Dravyaguna Vijnan Part - 1 and 2 - Yadavji Trikamji
25. Chakradatta - Ratnaprabha, Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashtanga Sangraha, Ashtanga Hridaya,
26. Remington: Science and Practice of Pharmacy
27. Theory and Practice of Industrial Pharmacy – Leon Lachman *et al*
28. Clinical Pharmacology, KD Tripathi
29. Clinical Pharmacology, Lawrence Benette
30. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
31. Pharmacological Basis of therapeutics – Goodman and Gilman
32. Data Base of Medicinal Plants of CCRAS
33. Quality and Standards of Medicinal Plants – ICMR publication
34. Quality Control of Ayurvedic Drugs – PLIM, Gaziabad
35. Ayurvedic Pharmacopeia of India
36. Ayurvedic Formulary of India
37. Indian Pharmacopeia
38. British Pharmacopeia
39. United States Pharmacopeia
40. Pharmacopeia Codex
41. Current Good Manufacturing Practices
42. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
43. Drugs and Magic remedies (Objectionable advertisement) Act-1954
44. Prevention of Food Adulteration (PFA) act
45. Laws pertaining to Narcotics
46. Factory and Pharmacy Acts
47. Consumer Protection Act -1986
48. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (related with the subject)
49. Rutleys Elements of Mineralogy
50. Bhasma Vigyaniam
51. Kupipakva Vigyaniam
52. Anupana Manjari

PG 1st Year Syallabus-24

M.D.-AYURVEDA PRELIMINARY
6. AGADATANTRA AVUM VIDHI VAIDYAKA
(Toxicology & Forensic Medicine)

PAPER-II

Theory 100 marks

PART-A

50 marks

1. Introduction to Agadatantra, its sequential development, traditional and contemporary toxicology.
2. Examination of poisons as per contemporary and Ayurvedic methods.
3. Ancient and contemporary classification of Visha.
4. Knowledge about Sthavara visha, Jangama visha and Kritrima visha, their clinical and pathological manifestations and management.
5. Garavisha and Dushi visha, signs, symptoms and management with contemporary relevance.
6. Vishajanya Janapadodhvamsaniya Roga (community health problems due to poisons) - environmental pollution, water pollution, soil pollution, air pollution etc, their features and management according to ancient and contemporary concepts.
7. Concept of Viruddhahara with contemporary views.
8. Definition of Vyavahara Ayurveda.
9. Fundamentals of Vyavahara Ayurveda. Courts of law in India and legal procedures.
10. Chathurvinshati upakrama (24 management procedures).

PART-B

50 marks

1. Introduction to Forensic medicine.
2. Techniques of pathology, pharmacology, pharmacognosy and microbiology used in toxicology.
3. Death and its medico-legal aspects (Medical Thanatology), Medico-legal autopsy, Legal procedures in clinical forensic medicine.
4. Forensic Science Laboratory:- Structure and functions
5. Introduction to Medical Jurisprudence.
6. Laws related to medical profession. Ancient practice of medical jurisprudence in india.
7. Ancient and contemporary fundamentals of medical ethics.
8. Madya visha (Alcoholism).
9. Diagnosis and Management of food poisoning.
10. General and Emergency medical management of poisoning including preparation, administration and complications of antidotes, antivenoms, antisera.
11. Management of the toxic manifestations caused by the contact poisons (paduka, vastra, abhushana, mukhalepa-vishabadha etc).
12. Diagnosis and management of dermatological manifestations of Visha.
13. Death due to poisoning, duty of physician in poisoning and cases of suspected poisoning.
14. Post mortem findings in poisoning.

PRACTICAL

100 marks

Contents:

Clinical Postings

Case records – 20 cases (Postmortem/ poisoning/dermatological/medico legal cases)

PG 1st Year Syallabus-25

Distribution of marks (Practical)

1. Case records (20 Cases) - 20 Marks
2. Bedside clinical case taking
3. Long Case - 20 Marks
4. Short Case - 10 Marks
5. Identification of specimens, models and equipments of jurisprudence importance. - 15 Marks
6. Spotting related to Visha, Upavisha and other poisonous drugs - 15 Marks
7. Viva-voce -20 marks

REFERENCE BOOKS:

1. Useful Portion of Charak-Sushrut-Vagbhata
2. Dravyaguna Vigyan - Acharya Yadavji
3. Aushadhigunadharm Shastra - Pt Visvanath Dvivedi
4. Kriyatmat Aushada parichaya Vigyan - Pt Visvanath Dvivedi
5. Ayurvedic Vyadhi Vigyan - Acharya Yadavji Trikamji
6. Madhavanidan with Madhukosha commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadigunadharm Shastra - PtGangadhara Shastri Gune
10. Rasendracintamani
11. Rasaratna samuchhaya
12. Vishavigyan - Dr. Krishna Kumar
13. Related matter of Kautilya Artha Shastra
14. Harmekhlatantra
15. Anupana manjari
16. Ayurvedprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy -B.M. Mhithai
19. Hand book of Forensic Medicine and toxicology - Dr. P.V. Chadha
20. Viva Forensic Medicine and toxicology - L.C. Gupta
21. Forensic Medicine and Ethics - J.P. Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology -Dr.K.S. Narayan Reddy

24. Medical Laws and Ethics - Dr. H.S. Mehta
 25. M.R.K. Krishnan's Handbook of Forensic Medicine
 26. Text book of Medical Jurisprudence and Toxicology - Dr. C.K. Parikh
 27. Atlas of Forensic Medicine - Dr. Tomio Watenbe
 28. Medico legal Post Mortems (Atlas) - Dr. Parikh and Others
 29. Textbook of Forensic Medicine and Toxicology - Dr.V.V. Pillay
 30. Textbook of Forensic Medicine and Toxicology - Dr. Karmakar
 31. Textbook of Forensic Medicine and Toxicology - Dr. Singhal
 32. Textbook of Forensic Medicine and Toxicology - Dr. Krishnan Vij
 33. Forensic Pathology - Dr. Bernard Knight
 34. Textbook of Forensic Medicine and Toxicology - Lyon's
 35. Pocket picture guide to Forensic Medicine - Gower's Medical

Publication

34. Forensic Medicine - Simpson Knight
 35. Taylor's Principles and Practical of Medical Jurisprudence - J and A Churchis
 36. Doctor and Law - Singhal
 37. Textbook of Toxicology - Singhal
 38. Medicine Harrison's Principal of Internal Medicine
 39. Agad Tantra - Dr.Shekhar Namboodri

PG 1st Year Syallabus-26

1. Modern Medical Toxicology - Dr. V.V.Pillay
 2. Critical care toxicology - Bruent Wallace
 3. Diagnosis and Management of common poisoning- Agarwal wali
 4. Colour Atlas of Forensic Medicine - Govindaiah
 5. Guidelines of poisons - W.H.O.
 6. Doctors patients relationships - Dr.Lavekar
 7. Bhavaprakasha.
 8. Vishavaidya Jyotsnika -- English translation By VPSV Ayurveda college, Kottakkal.
 9. Lakshnamritham.
 10. Toxicology, Ayurvedic perspective - VPSV Ayurveda college, Kottakal
 11. Text book of Agadatantra - Edited By Dr Huparikar, Dr. Joglekar
 12. Agadatantra ki Pathyapustaka - Edited By Dr Huparikar, Dr. Joglekar
 13. Vyavahar Ayurveda Vigyanam - Dr.Indramohan Jha (Sachchan)

1. Forensic Medicine - Dr. B. Umadathan
 2. Visha Chikitsa - Dr. M. Balakrishnan Nair
 3. Park Text book of Preventive and Social Medicine. - K. Park
 4. Environmental Science and Biotechnology - Theory and

- A.G. Murukesan &C. Rajakumari

5. Veterinary Toxicology - Dr. Satish K. Gargi

6. Guide to Drinking Water Quality (3 Volumes) - WHO Publication
7. A short Text Book of Medical Entomology - H.S. Bhatti, R. Sehgal,

R.C. Mahajan.

PG 1st Year Syallabus-27

M.D.-AYURVEDA PRELIMINARY
7. SWASTHAVRITTA & YOGA
(Preventive, Social Medicine & Yoga)

PAPER-II

Theory 100 marks

PART A

50 marks

1. Importance and relevance of Swasthavritta and Community Medicine. History of community medicine.
2. Concept of health and disease as per Ayurveda and Modern Medicine. Various definitions and dimensions of health as per Ayurveda and World Health Organization.
3. Relevance of Dinacharya, Ratricharya and Ritucharya in Health Promotion.
4. Basic concept of Vega. Concept of Adharaniya and Dharaniya Vega in health promotion and prevention of diseases with examples.
5. Concept of Trayopastambha in health promotion and prevention of diseases.
6. Concept of nutrition as per Ayurveda and modern science.
7. Concept of Vyadhikshamatva. Concept of Bala and Ojas in relation to health.
8. Role of Panchakarma in preventive medicine.
9. Role of Rasayana in promotion of health and prevention of diseases. Scope of Rasayana in Geriatrics and Reproductive & Child Health.
10. The concept of Ashtanga Yoga and its relation to health. Concept of Moksha.
11. Basic concepts of Nisargopachara including Panchabhautika Chikitsa.

PART B

50 marks

1. Concept of Janapadodhwamsa and tools of its prevention.
2. Principles of Epidemiology. Definitions in infectious disease epidemiology.
3. Concept of disease control and intervention strategies.
4. Levels of disease prevention
5. Basic principles of Samkramak Vikara- causes, modes of disease transmission, epidemiological triad
6. Principles of Health Education
7. Environmental Health- concept of water, soil and air purification as per Ayurveda and modern science.
8. Introduction to Meteorology

9. Role of Swasthavritta in maternal and child health care.
10. National Population Policy, National Health Policy as per Alma Ata Declaration and Role of Ayurveda therein.
11. Role of Swasthavritta in communicable and non-communicable diseases and life style disorders.
12. Biomedical waste management.
13. National health programmes.

PG 1st Year Syllabus-28

PRACTICAL

100 marks

Contents:

1. Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar
2. Preparation of different Kritanna Kalpana
3. Practice of the following
 - A. Pratimarsha Nasya
 - B. Anjana
 - C. Kavala and Gandusha
 - D. Abhyanga
 - E. Udvartana
 - F. Prayogika Dhoomapana
 - G. Matra basti
4. Health awareness lectures to the community (minimum 5)
5. Participation in observance of National & International days related to health.
6. Proficiency in performing the following Asanas

Standing Postures- Ardhakatichakrasana, Padahastasana, Ardchhakrasana, Trikonasana.

Sitting postures- Swasthika, Gomukha, Padmasana, Vajrasana, Bhadrasana, shashankasana, Ushtrasana, Pashchimottanasana, Suptavajrasana, Ardhamatsyendrasana, Siddhasana.

Supine Postures- Pavanamuktasana, Sarvangasana, Matsyasana, Halasana, Chakrasana, Shavasana.

Prone postures- Bhujangasana, Shalabhasana, Dhanurasana, Makarasana.

Distribution of marks (Practical)

1. Records - 20 Marks
2. Long Procedures - 20 Marks
3. Short Procedures - 10 Marks
4. Spotting - Aahar dravyas, Family Planning

Devices, Vaccine/Serum and Models/Specimens,

Naturopathic and Yogic specimens etc. - 10 Marks

1. Yogasana - 20 Marks
2. Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratnakara, Bhela Samhita with the respective commentaries
2. Swasthavritta Samuchaya -VaidyaPtRajesvarDuttaShastri
3. Swasthya Vignyana -Dr.B.G.Ghanekarshastri
4. Prakritika Chikitsa -Kedarnath Gupta
5. Reddy's Comprehensive Guide to

Swasthavritta -Dr.P.Sudhakar Reddy

- Swastha Vigyan - Dr.MukundswaroopVerma
- Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- Yoga and Ayurveda - Dr.Rajkumar Jain
- Swasthvritta Vigyan - Dr.Ramharsha Singh.

PG 1st Year Syallabus-29

1. Swasthvrittam - Dr.BramhanandTripathi
2. Ayurvediya Swasthvrittam - Vd.Jalukar
3. Hathayog Pradipika - SwatmaramYogendra (Kaivalyadhama)
4. YogikYog Paddhati - BharatiyaprakrutikChikitsaPadhat
5. Yogik Chikitsa -ShriKedarnath Gupta
6. Prakrutik Chikitsa Vigyan - Verma
7. Janasankhyashikshasidhanta evam

Upadesa - S.C.Seel

1. Swasthvritta - Dr.Shivkumar Gaud
2. Health and Family Welfare - T.L.Devra
3. SachitraYogasan Darshika - Dr.IndramohanJha
4. Preventive and Social medicine - J.K.Park
5. Yogadeepika - Shri. B.K.S. Iyengar
6. Swasthavritta - Vd.Sakad
7. Positive Health - Dr.L.P.Gupta
8. Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
9. Yoga and Yogikchikitsa - Ramharsha Singh
10. The Foundation of Contempary Yoga - R.H.Singh

11. Yogasidhanta evum Sadhna	- H.S.Datar
12. Patanjali Yoga Sutra	- Maharshi Patanjali, Karambelkar
13. Prakrutik Chikitsa Vidhi	- Sharan Prasad
14. Text book of Swasthavritta	- Dr.Ranade, Dr.Bobade, Dr.Deshpande
15. Gherand Samhita	
16. Bio-Statistics	- B.K. Mahajan
17. Swasthavritta Vidnyan	- Dr.Mangala Gauri
18. Community Medicine	- Baride and Kulkarni.
19. Light on Yoga	- Shri. B.K.S. Iyengar
20. Light on Pranayama	- Shri. B.K.S. Iyengar
21. Light on Patanjala Yogasutra	- Shri. B.K.S. Iyengar
22. Shiva Samhita	- Kaivalyadhama
23. Gheranda Samhita	- Kaivlyadhama
24. Swasthavritta Vigyan	- Vd. Patrikar Vijay
25. Swasthavritta	- Vd Yashwant Patil and Vd. Vhawal
26. Food and Nutrition	- Swaminathan
27. Preventive and Social Medicine	- Mahajan
28. Preventive and Social Medicine	- B.N.Ghosh
29. Preventive and Social Medicine	- Gupta
30. Yoga and Nisargopachar	- Vd. Prama Joshi

PG 1st Year Syallabus-30

M.D.-AYURVEDA PRELIMINARY
8. ROGA NIDANA AVUM VIKRITI VIGYAN
(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. Knowledge of current diagnostic tools like ECG, X-Ray, CT scan, MRI and USG

PRACTICAL

100 marks

Contents:

1. Duty in hospital OPD and IPD.
2. Duty in pathology laboratory.
3. Case taking – 25 cases
4. Performance of pathology and biochemistry practicals – 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 |

REFERENCE BOOKS:

1. Madhav Nidan (Madhukosha Commentary)
2. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata
3. Doshakaranatwa Mimamsa - Acharya P.V. Sharma
4. Nadi pariksha - Vb Athavale
5. Nadi Pariksha – - GP Upadhyay
6. Rogi Pariksha vidhi - Acharya Priyavrata Sharma
7. Nidan Panchak - Shivcharan Dhyani

8. Vyadhivigyan I and II - Yadav Thrikamji
9. Ayurvediya Roga Vargikaran - Vd. Ramanat Vd. Gurdip Singh
10. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh
11. Clinical methods in Ayurveda - K. R . S. Murthy
12. Parameswarappa's Ayurvediya Vikriti Vigyan & Roga Vikriti Vigyan - Dr. P.S. Byadgi.
13. Oxford Handbook of Clinical Examination and Practical Skills
14. Symptoms & Signs in Clinical Medicine - Chamberlains
15. Hutchison's Clinical Methods
16. Bedside Clinics in Medicine Part- I & II - Kundu
17. Practical Pathology - Dr. K. Uma Chaturvedi
18. Medical Laboratory Technology - R. Sood
19. Clinical Diagnosis and Management by Laboratory methods - Todd, Sanford and Davidson

PG 1st Year Syallabus-32

M.D.-AYURVEDA PRELIMINARY
9.CHHAYA AVUM VIKIRAN VIGYAN
(Imaging and Radio diagnosis)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Objectives of Chhaya avum Vikiran Vigyan.
2. History,development and concept of Chhaya avum Vikiran vigyan
3. Poorva karma (preparatory measures) related to Chhaya avum Vikiran Vigyan in relation to consultant, technical staff and patients (with their attendants) including counseling and consent.
4. Review of fundamental principles of Ayurveda.
5. Shishyopanayan regarding the Chhaya avum Vikiran Vigyan – introduction of Chhaya avum Vikiran department and hospital unit, guidelines for their use, do's and don'ts, discipline, duties and responsibilities.
6. Ethical and legal issues related to Chhaya avum Vikiran Vigyan.
7. Precautions and preventions in Chhaya avum Vikiran Vigyan unit.
8. Environmental issues related to Chhaya avum Vikiran Vigyan. Impact of used radiological energies on environment.
9. Disposing and recycling of radiological materials. Biomedical waste disposal management in Chhaya avum Vikiran Vigyan.
10. Management of Chhaya avum Vikiran Vigyan department. Relation between consultant, student, technical staff, patients (with their attendants).
11. Basic concept of research methodology related to Chhaya avum Vikiran Vigyan.

PART B

50 marks

1. Preliminary knowledge of various modalities of Chhaya avum Vikiran Vigyan.
2. Efficiency and limitations of various radiological modalities.
3. Introduction of surface and applied anatomy, patho-physiology related to Chhaya avum Vikiran Vigyan.
4. Preliminary knowledge of equipments related to radiology.
5. Selection of appropriate radiological modalities- basis of selection, correct radiological investigation advice, further assessments and diagnostic advice.
6. Management of emergencies in radiology section, electrical and mechanical violent emergencies, radiation hazards and its preventive measures.
7. Pharmacology and application of emergency drugs, analgesics, muscle relaxants, fluids, plasma expanders, oxygen and various contrast media used in Radio-diagnosis and imaging.
8. Drug and contrast media reactions and shock - its management, cardio-cerebro-pulmonary resuscitation (CCPR), endo-tracheal intubation, tracheostomy.
9. Anesthesiology related to radiology.
10. Short review of common diseases, frequently investigated in the Chhaya avum Vikiran Vigyan department especially their clinical findings, anatomical and patho-physiological changes.
11. Skills of transfer of knowledge- Teaching methodology, audio-visuals preparation and presentations.
12. Knowledge of Information Technology – relevant to radiology.
13. Record keeping.
14. Documentation, books and journals, research paper writing.

PG 1st Year Syallabus-33

PRACTICAL

100 marks

Contents:

- Evaluation of knowledge of functioning of equipments
- Evaluation of knowledge of Chhaya avum Vikiran Vigyan procedures
- Management of Chhaya avum Vikiran vigyan department
- Management of emergencies in Chhaya avum Vikiran Vigyan unit
- Personality development assessment.
- Basic knowledge of concepts of radiological interpretations

Distribution of Marks (practical):

- | | |
|---|----|
| 1. Case Records of 25 patients | 20 |
| 2. Chhaya avum Vikiran Vigyan procedures - | |
| 1. Long procedure | 20 |
| 2. Short procedure | 10 |
| 3. Identification and functioning of instruments and equipments | 15 |
| 4. Interpretation of Radiograph and images | 15 |

REFERENCE BOOKS:-

Shusruta Samhita	Relevant part
Charak Samhita	- do-
Astang Hridaya/Sangrah	- do-
Text Book of Radiographic Positioning and Related Anatomy	- By Kenneth L Bontrager,
John P Lampignano	
Radiographic interpretation to general practitioner	-W.H.O.
Procedures in diagnostic Radiology	- By T. Doyle, W. have, K.
Thomson.	
Radiographic positioning	- By Clark
Radiobiology for the Radiologist	- By Hall.Christensen's Physics of Diagnostic
Radiology	- By Curry T S , Dowdey J E
, Murry R C	
Farr's Physics for Medical Imaging	- By Penelope Allisy-
Roberts , jerry Williams	
Fundamental of Diagnostic Radiology	- By Brant.
Diagnostic Imaging	- By Federle
Diagnostic Imaging	- By Peter Armstrong ,
Martin Wastie , Ansrea	
Rockall	
Gastrointestinal radiology	- R.L. Eisenberg
Uro-radiology	- T.Sherwood, A.J.Davidson,
.B.Talner	
Grainger and Allison's Diagnostic Radiology	-Text book of medical
imaging	
Text Book in Radiology and Imaging	- By D. Sutton.
Introduction to Vascular Ultrasonography	- By Zwiebel , Pellerito
Text book in Ultrasonography	- By Roumack
Manual of Medical Diagnostic Ultrasonography	- By W.H.O.
Scientific	group.

PG 1st Year Syallabus-34

Computed Tomography & MRI of the whole body	- By Hagga.
Surface and Radiological Anatomy	- By A. Halim
X-Ray equipment for student Radiographers	- By DN and MO Chesney
Clinical Sonography , A Practical Guige	- By Roger C. Sanders , Tom Winter
Ultrasonography in obstretics and gynaecology	-Callen

Standard Journals like Indian Journal of Radiology, Radiology, Radiological clinics of north America, British Journal of Radiology etc.

Audio-visual aids

-CDs & DVDs

PG 1st Year Syallabus-35

M.D.-AYURVEDA PRELIMINARY

10.KAYACHIKITSA

(Genral 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 Prakriyadi 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:
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.

PG 1st Year Syallabus-36

Vati- Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyoshadi, Shankha Vati, Shiva Gutika.

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.

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

100 marks

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. Bedside clinical case taking-	
Long case	20 marks
Short case	10 marks
3. Medical procedures/laboratory work	15 marks
4. Instruments and spotting	15 marks
5. Viva voce	20 marks

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.
Relevant texts of concerned subjects.

PG 1st Year Syallabus-37

M.D.-AYURVEDA PRELIMINARY
11. MANO VIGYAN AVAM MANAS ROGA
(Psychiatry)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Concept of Manas in Sankhya, Yoga, Nyaya, Vaisheshika, Purva Meemamsa, Vedanta, Bouddha, Tantra and Purana. Philosophical concepts in Ayurveda and its applications.
2. Basic principles of Ayurveda psychology - Srishti utpatti, Triguna, Loka purusha samya Siddhanta, determination of Purusha according to Dhatubheda, Chikitsadhikrita purusha in a psycho somatic axis, Perception and cognition in Ayurveda. Dosha, Dhatu, Agni, Mala Vigyanam and its psychosomatic importance, 'Shariramapi Sattvamanuvidhiyate Sattvam Cha Shariram'. Concept of Dharma, Artha, Kama and Moksha, concept of Apunarbhava in Ayurveda, Trividha Eshana.
3. Introduction to psychoanalytical concept – Id, Ego, Super ego. Concept of mind in Western psychology
4. Concept of Mana in Ayurveda, Mano Nirupana, Manaswarupa, Sthana, Vishaya, Karma, Guna and Dosha. Manovyapara, Gyanotpatti, Gyanotpattau Manaso Dayittwam. Manas as 'Cheshta Pratyayabbutam Indriyanam Indriyo-Pakramaniyam'. Atma nirupana, Atmaguna.
5. Psychological Processes – Attention and perception, intelligence, creativity, motivation, emotion, sex and other drives, states of consciousness, learning, memory, cognition and dream, knowledge of developmental psychology.
6. Understanding of Manasika bhava / Manovikara and their importance in Manasroga Nidana and Chikitsa – Iccha, Dwesha, Sukha, Dukha, Lobha, Moha, Krodha, Shoka, Vilapa, Preeti etc. Emotional aspects of human behaviour.
7. Manovaha Sroto Nirupana, basics of neurophysiology, neurotransmitters, psychoneuroimmunology, physiological basis in human behaviour, influence of nervous system on human behaviour, sensory systems, autonomic nervous system, study of Ojas, Gyanendriya and Buddhi.
8. Satvikadi Kayanam samanya gyanam, basic concepts of personality, Sattvabala and mental disorders.
9. Manasroga samanya nidana, Pragyaparadha- samkshipta vivarana. Vibhramsha of Dhee, Dhriti and Smruti, Mano Dosha and Sharir Dosha in psychopathogenesis, Sadvritta and its importance.

10. Relation of psychology with parapsychology.

PART B

50 marks

1. Basic understanding of Sattva Pariksha , utility of Trividha, Shadvidha, Ashta Sthana, Dashavidha and Srotopariksha in psychiatric practice, Vikriti pariksha- Vibhrama of Mano -Buddhi- Samgya Gyan-Smriti-Bhakti-Sheela-Cheshta and Achara.
2. Psychiatric examination- Mental status examination, mini mental status examination, cognitive assessment with higher mental functions, personality and self in psycho analysis, basic psychiatric assessment inventories- Hamiltons scale, Bech's inventory, GRISS questionnaire, Weschlers' scale for intelligence.
3. Clinical psychology – General psychology with schools of psychology, theories of personality development, social dimensions of behavior and current issues, doctor patient relationship, patient interviewing and study of therapeutic relationship. Basic knowledge about anxiety disorders, delusional disorders, phobic disorders, lying, stealing, juvenile delinquency. Mental hygiene and behaviorism.
4. Technical terms used in psychiatric practice, general symptoms of psychiatric disorders, classification of psychiatric disorders as per DSM and ICD classifications.

PG 1st Year Syallabus-38

5. Basic knowledge about organic psychosis, psychoneurosis, Schizophrenia, mood disorders, personality disorders, sexual perversions, sleep disorders and mental retardation.
6. Basic understanding of Bhuta, Graha and Bhutavidya. Hetu, Lakshana and Samprapti of Unmada, Apasmara, Atattwabhinivesha, Grahavesha, Bhutonmada, Gadodvega, Yoshapasmara, Madatyaya.
7. Nidra and Swapna, its types and role in psychopathogenesis.
8. Basic understanding of Chikitsa bheda, descriptions of general and specific principles of Kayachikitsa, its practical application in Manasroga, Daivavyapashraya, Yuktivyapashraya, Satvavajaya chikitsa and Dravya-adravya chikitsa, Manodosha Samanya chikitsa, basic treatment principles in Manasika vyadhi, Panchkarma and its application in Manasika roga, Importance of Rasayana and Vajikarana therapies in Psychiatric practice, Medhya rasayana.
9. General knowledge in the basic management principles of psychiatric disorders in modern medicine. Basic knowledge on psychopharmacology, forensic psychiatry, community psychiatry, liaison psychiatry, child psychiatry and geriatric psychiatry.
10. Application of psychiatric knowledge in other specialities viz. Kayachikitsa, Agadatantra, Shalya, Shalakyas, Prasuti- Stri Roga and Kaumarabhritya.
11. Psychosomatic disorders, psychological understanding on essential hypertension, asthma and other allergic disorders, psoriasis, IBS, ulcerative colitis, CAD, tension /vascular headaches, pseudopsychosis, hyperemesis gravidarum, enuresis, diabetes mellitus, obesity, autoimmune disorders, neoplasm and psychosexual disorders.
12. Basic understanding of diagnostic applications- Haematological, biochemical, serological, histopathological, imaging - ECG, EEG, USG, MRI scan, CT scan, PET scan in psychosomatic, psychiatric and neuro- psychiatric practices.

PRACTICAL

100 marks

Contents:

1. Daily hospital duties in OPD, IPD and casualty
2. Practical Record Book
 1. Psychiatric – 5 cases
 2. Psychosomatic – 5 cases
 3. Paediatric / Geriatric Psychiatry – 5 cases
 4. Psychosexual / Substance abuse – 5 cases
3. Psychiatric Inventories- MMSE, Hamilton Anxiety Depression Rating Scale, Brief Psychiatric Rating Scale, Bech's Depressive Inventory, Weschlers' scale, GRISS questionnaire -2 Cases each
4. Manasa Bhava assessment scales- Sattvabala, Manasa Kaya, Smriti, Buddhi, Raja and Tama rating, Manas Bhava Pariksha –2 cases each

Distribution of marks (Practical)

1. Case records of Patients in Detail (25 Cases) - 20 Marks
2. Bedside clinical case taking

Long case - 20 Marks

Short case - 10 Marks

- Procedure - 15 Marks
- Instruments & Spotting - 15 Marks
- Viva - voce - 20 Marks

PG 1st Year Syllabus-39

REFERENCE BOOKS:

1. Related matter of Charak, Sushrut and Vagbhata and other ancient texts with commentaries
2. Prachin Manovikara Vigyanm - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai
4. Ayurved Darshan - Acharya Rajkumar Jain
5. Purusha Vichaya - Prof. V.J. Thakkar
6. Ayurvediya Manas Vigyan - Prof. Ram Harsh Singh
7. Yoga evum Ayurved - Acharya Rajkumar Jain
8. Basic principles of Ayurvediya Padartha Vigyan - Dr Yogesh Chandra Mishra
9. Synopsis of Psychiatry - Harold kaplon and

Benjamin saddock

1. Oxford textbook of Psychiatry - Michael Gerlder, Paul

Harrison

1. General psychology and Abnormal psychology - S.K. Mangal
2. A text book of Post Graduate Psychiatry - Neeraj Ahuja
3. Mind in Ayurveda and other Indian Traditions - A.R.V.Murthy
4. Psychopathology in Indian medicine - Satyapal Gupta
5. Body- Mind-Spirit Integrative Medicine - Prof. Ram Harsh Singh
6. Rationale of Ayurveda Psychiatry - Dr. A.R.V. Murthy
7. Foundations of contemporary Yoga and Yoga Therapy - Prof. Ram Harsh Singh
8. Stress and its Management - Dr. K.N. Udupa
9. Concept of Mind - Edited by Prof. C.R. Agnivesh, Kottakkal
10. Kayachikitsa - Part 3 - R. R. Pathak and Vidhyadhar Shukla
11. Panchakarma Illustrated - Prof. Shrinivasa Acharya
12. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
13. Essential Psychiatry - Bhatia MS
14. Sahassrayoga - Nishteswar and

Vaidyanath

1. Ayurveda and the Mind - David Frawley
2. Manasa Roga Vijnana - Balakrishna
3. Comprehensive Textbook of Psychiatry - Kaplan and Sadock's
4. Psychiatry for medical students - Robert J Waldinger
5. Introductions to Psychology - Morgan / King.

PG 1st Year Syallabus-40

D.-AYURVEDA PRELIMINARY

12.RASAYAN & VAJIKARAN

(Rejuvenation & aphrodisia)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Concept of Bhesaja, classification and understanding of Swasthasya Urjaskara and Artasya Roganut.
2. Etymology, derivation, definition, synonyms and scope of Rasayana, Vajikarana & Vrishya.
3. Historical aspects of Rasayana & Vajikarana
4. Rasayana-Vajikarana Arha & Anarha

5. Classification of Rasayana & Vajikarana.
6. Knowledge of Dosha, Dhatu & Mala.
7. Knowledge of Dhatu Parinamana & Poshana Nyaya.
8. Detailed knowledge of Shukradhatu, Shukra, Retas, Veerya, Rupadravya, Prashastha Sukra Lakshana, Sukrasaara Purusha.
9. Knowledge of Sukravahasrotas, Sukradhara Kalaa.
10. Concept of Ojas.
11. Knowledge of Prakriti, Sara & Satwa.
12. Knowledge of concept of Agni: all components of Agni, levels of Agnimandya, Agnimandyajanya Vikara.
13. Principles of Panchakarma and application in Rasayana & Vajikarana.

PART B

50 marks

1. Applied anatomical & physiological aspects of male reproductive system.
2. Applied aspects of physiology of puberty.
3. Spermatogenesis.
4. Basics of genetics. Bija and its components.
5. Applied aspects of reproductive endocrinology.
6. Semen formation, knowledge of various components of semen.
7. Basics of applied pharmacology related to Rasayana & Vajikarana.
8. Knowledge of metabolism and metabolic disorders.
9. Basics of Geriatrics.

PRACTICAL

100 marks

Contents:-

1. Daily hospital duties in OPD, IPD and casualty.
2. Assessment of Saara – Shukrasaara and Shukra-Asaara –10 patients.
3. Rasayan and Vajikarana in geriatric patients – 10 patients.
4. Semen analysis- Retopariksha – 10 cases.
5. Uttarbasti – 5 cases.
6. Technique of psychosexual counseling.
7. Applied knowledge of assessment scales pertaining to Vajikarana /sexual functions.
8. Practical aspects of Panchakarma pertaining to Rasayana & Vajikarana.

Distribution of Marks (practical):

1. Case records of patients-
(15 case of Rasayana; 10 cases of Vajikarana) 20 marks
2. Bedside clinical case taking-
Long case 20 marks
Short case 10 marks
3. Semen analysis and lab investigations 20 marks
4. Instruments and spotting 10 marks
4. Viva voce 20 marks

REFERENCE BOOKS:-

1. Relevant chapters from Brihatrayee and Laghutrayee and their commentaries
2. Panchakarma by Prof.H.S. Kasture
3. Kayachikitsa Vol I & II (Including Panchakarma, Rasayana & Vajikarana) by Prof. RH Singh
4. Illustrative Panchakarma by Dr Sreenivasa Acharya
5. Campbell-Walsh Urology by Alan J. Wein MD PhD (Hon), Louis R. Kavoussi MD, Andrew C. Novick MD, Alan W. Partin MD PhD
6. Clinical Endocrinology 2013 The (Clinical Medicine Series) by MD., CG Weber
7. Sex and Human Loving -Masters and Johnson
8. Diagnosis and treatment of functional Infertility by Lunenfeild B, Insler V, Glezerman M (eds) Black well scientific publications, Berlin.
9. Human reproduction conception and contraception, He fez ESE (ed) Harpar and Row publications, New York
10. Infertility- Practical guide for the physician, Hommond GM, Talbert LM (eds) Black well scientific publications, Oxford
11. Rasayana vajeekarana- Darpan by Om prakash Upadhyaya, Soi Balachandra yantralaya, Manavashram, Jaipur
12. Vatsayana kamasutra
13. Ananga ranga
14. Kelikutuhala
1. Infertility manual by kamini Rao
2. Advanced infertility management- Mehroo Hansotia
3. Endocrine and Reproductive systems – Sanders
18. Proceedings of WHO Symposium on advances in fertility regulation, Moscow: USSR
19. WHO Laboratory Manual for the examination of semen and sperm. Cambridge Uni. Press
20. WHO (1973) Reproductive function in the human male. World Health Organization, Geneva(Mannual)
21. WHO (1975): Scientific group on the epidemiology of infertility. The epidemiology of infertility, Geneva (Technical Report Series No. 5820 37 P)
22. Decision making in infertility; DeCherney AH, Polan ML, Lee RD, Boyers SP (Eds), JP Brothers, New Delhi
23. Handbook of sexual Dysfunction by Richard Balon, R. Taylor Segraves pub. By Taylor and Francis Group Florida
24. The Sperm Cell (Production, Maturation, Fertilization, Regeneration) by Christoper J. De Jonge, Christoper L.R. Barratt, Cambridge University Press
25. Kaplan and Saddocks Synopsis of Psychiatry, Lippincott Williams and Wilkins

PG 1st Year Syallabus-42

M.D.-AYURVEDA PRELIMINARY

13.PANCHKARMA

(Five Therapeitic proedure)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Chikitsa and its classifications; Antah-Parimarjana and Bahir-Parimarjana Chikitsa
2. Principles of Chikitsa, Kriyakal, Shadvidha and Dvidvidha Upakrama and role of Panchakarma therein.
3. Applied aspects of Trividha, Shadvidha, Ashta Vidha and Dasha Vidha Pariksha.
4. 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.
5. 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).
6. 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.
7. Knowledge and method of examination of various skin lesions.
8. Applied anatomy of stomach, small intestine and large intestine. Detailed examination of gastro-intestinal system.

PART B

50 marks

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 Koshta 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) for Ayurveda, guidelines for

establishment and management of eco-friendly Panchkarma theatre including management of biomedical waste.

PG 1st Year Syallabus-43

PRACTI CAL

100 marks

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

Distribution of marks (practical):

- | | |
|--|----------|
| 1. Case records of 25 patients in detail | 20 marks |
| 2. Performance of long Karma | 20 marks |
| 3. Performance of short Karma | 10 marks |
| 4. Panchakarmal procedures | 15 marks |
| 5. Instruments and spotting | 15 marks |
| 6. Viva voce | 20 marks |

REFERENCE BOOKS:

- 1 Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara
- 2 Sushrutha Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana
- 3 Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries
- 4 Ashtanga Sangraha with Shashilekha commentery
- 5 Bhela Samhita
- 6 Kashyapa Samhita
- 7 Bhavaprakasha of Bhavamishra
- 8 Sharangadhara Samhita
- 9 Vangasen
- 10 Gadanigraha

11	Ayurvediya Panchkarma chikitsa	Dr Mukundilal Dwivedi
12	Panchkarma Vigyan	Dr Haridas Shreedhar Kasture
13	Illustrated Panchkarma	Dr.G Srinivasa Acharya
14	Ayurveda-Principles and Practice of Panchakarma	Dr. Mandip and Dr Gurdip Singh
15	The Panchkarma Treatment of Ayurved with Dr. T.L. Devaraj Kerala Specialities	
16	Panchkarma Therapy	Dr. R.H. Singh
17	Principles and practice of vasti	Dr. Vasudevan Nampoothiri and Dr. L. Mahadevan
18	Claiton's Physiotherapy	
19	Teddy's Physiotherapy	
20	Harrison's Principles of Internal Medicines	
21	Guyton's Physiology	

PG 1st Year Syallabus-44

M.S.-AYURVEDA PRELIMINARY
14. PRASUTI AVUM STRI ROGA
(Gynecology & obstetrics)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Concept of Tridosha, Dhatu, Upadhatu, Agni, Pancha Mahabhuta in relation to Prasuti and Stri Roga.
2. Concept of Artava and Shukra.
3. Concept of Rasa, Guna, Veerya, Vipak and Karma of Dravya used in Prasuti and Stri Roga.
4. Action and adverse drug reaction related to commonly used plants and Rasa Aushadhi in Prasuti and Stri Roga.
5. Concept of Pathya- Apathya in relation to Prasuti and Stri Roga.
6. Concept of Garbhadhan and Garbha.
7. Concept of Vrana and Vrana dushti.

8. Concept of special therapies of Ayurved used in Prasuti and Stri Roga.
9. Concept of Ashtavidha Shastra Karma, Yantra & shastra used in Prasuti and Stri Roga

PRACTI CAL

100 marks

1. Applied anatomy and physiology of genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, inguinal ligament, inguinal canal, vulva, rectum and anal canal.
2. Abnormal development, structure and function of female and male urogenital systems
3. Development, structure and function of placenta, umbilical cord and amniotic fluid.
4. Physiological and neuro-endocrinal changes during puberty, adolescence and menstruation.
5. Introduction of hormones related with gynaecology and obstetrics. Ovulation, fertilization, climacteric and menopause. Biophysical and biochemical changes in uterus and cervix during pregnancy and labour.
6. Pre-natal, Natal and Post natal counseling and examination.
7. Pharmacological study of drugs used in gynaecology and obstetrics.
8. Knowledge of diagnostic techniques used in gynaecology and obstetrics.
9. Basic Knowledge of pathological and biochemical investigation used in gynaecology and obstetrics.
10. Ethics, law and Acts Related to gynaecology and obstetrics – laws of abortion and adoption.
11. Knowledge of contraception and sterilization procedures.
12. Pre-operative and post operative care in gynaecology and obstetrics.

PRACTI CAL

100 marks

Contents:

1. Hospital duties in OPD, IPD, labor room, OT and casualty
2. History taking and counseling - 25 cases.
3. Labor cases - observation/performing - 10 cases
4. Knowledge of instruments required in gynaecology and obstetric practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.

PG 1st Year Syallabus-45

8. Pre-operative, operative and post operative procedures.

Distribution of marks (Practical)

1. Case records of Patients in Detail (25 Cases) - 20 Marks

2. Bedside clinical case taking

Long case - 20 Marks
Short case - 10 Marks

1. Procedures - 15 Marks
2. Identification of instruments, X-ray etc & Spotting - 15 Marks
3. Viva - voce - 20 Marks

REFERENCE BOOKS:

1. Related matter from all the samhitas and their commentaries.
2. Prasuti tantra evum stree roga by prof Tewari P V
3. Concepts of gynecology Dr Nirmla G Joshi.
4. Prasuti Tantra Prof. M. Dwivedi
5. Stree roga vigyan - Dr VNK Usha
6. Navya prasuti Vigyan Dr Pooja Bharadwaja
7. Text book of gynaecology-Berek and Novak.
8. Text book of obstetrics- Williams
9. Text book of obstetrics- D C Dutta
10. Text book of gynaecology - D C Dutta
11. Gabbe's normal and problem pregnancies.
12. Human embryology by Sandler.
13. Jeffcoat's principles of gynaecology
14. Te linde's gynaecological surgery.

PG 1st Year Syallabus-46

M.D.-AYURVEDA PRELIMINARY
15. KAUMARBHRITYA - BALA ROGA
(Pediatrics)

PAPER-II

PART A

Theory- 100 marks

50 marks

1. Development of Kaumarbhritya tantra including ancient and modern literature. Strength of Ayurveda specific to child health care.
2. Vayobheda (Classification of age) according to different classics
3. Anatomical and physiological differences in child compared to adult.
4. Ayurvedic consideration of physiology and pathology of Dosha, Dhatu, Mala, Oja, Agni, Prakriti (sharirika-manasika), Kaya and Dhatuposhana in children.
5. Basic Concepts of growth and development, and its assessment.
6. Ayurvedic and modern clinical methods of examination of healthy and diseased newborn and children.
7. Knowledge of modern diagnostic tools like clinical and laboratory investigations, X-ray, USG, MRI etc.
8. Fundamentals of Ayurvedic treatment for childhood disorders.
9. Applied pharmacological considerations: Ayurvedic and modern concepts of drug doses, administration, distribution, metabolism, excretion, and other important factors of consideration.
10. National programs related to pediatrics.
11. Childhood Samskara
12. Principles of Child Psychology (Ayurvedic & modern concepts)

PART B

50 marks

13. Concept of Bala Rasayana and its application in physical and mental health of children.
14. Concept of Vyadhi-Kshamatva avam Vardhanopaya. Concept of immunity and immune enhancing measures including immunization.
15. Concept of Dhupana and Raksha karma and their clinical application in pediatric practice
16. Basic concepts of single drugs commonly used in pediatric practice with special reference to their karma like- Guduchi, Yastimadhu, Mandukaparni, Shankhapushpi, Ativisha, Pippali, Maricha, Shunti, Haritaki, Amalaki, Tulasi, Bhumyamalaki, Daruharidra, Haridra, Vidanga, Katuki, Dadima, Brahmi, Ashvagandha, Shatavari, Bala, Kampillaka, Trivrita, Jyotishmati, Vacha, Jeevanti, Rasna, Shatavari, Anantamula (Krishna Sariva), Durva, Khadir, Tankana, Tambula, Jatamansi, Sphatika.
17. Knowledge of their ingredients, indications, precautions and specific considerations including adverse drug reactions (ADR) of commonly used Ayurvedic formulations in pediatric practice e.g. Aravindasava, Baalachaturbhadra Churna, Kumarakalyana Rasa, Saraswatarista, Swarnaprashana (Kashyapa Samhita), Kumaryasava, Kushmanda Rasayana (Sharangdhar), Ashvagandha Rasayana (Ashtanga Hridaya), Brahmi Ghrita, Kalyanaka Ghrita, Talishadi Churna, Sitopaladi Churna, Haridra Khanda, Krimikuthara Rasa, Mugdha Rasa, Dantodbheda-Gadantaka Rasa, Rajanyadi Churna (Ashtanga Hridaya), Samvardhana Ghrita, Ashta Mangal Ghrita.
18. Methods of preparation of various specific Kalpana (e.g. Lehya, Syrup, drops etc.) according to needs of children.
19. Common instruments and their application in new born care and general pediatric practice.
20. Specific considerations in research methods related to Pediatrics.
21. Regulatory laws related to child health management.

PG 1st Year Syallabus-47

PRACTI CAL

100 marks

Contents:

1. a) In-patient case history record -(25 Patient)
- b) Child Health record - (50 Case)

1. Involvement in Outreach and National programs:
 2. School Child health checkup
 3. Adolescent education
 4. Adolescent counseling etc
3. Pediatric ward/nursery management.

Distribution of marks (Practical)

1. a) Case History Record - (25 Patient) - 10 Marks
- b) Child Health record - (50 Case) - 10 Marks
2. Bed side clinical case taking
 1. Long Case - 20 Marks
 2. Short Case - 10 Marks
3. Procedures/ Kriya Kalpa - 15 Marks
4. Identification of instruments & Spotting - 15 Marks
5. Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & practice of Pediatrics in Ayurveda: CHS Shastry
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic Concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratyagamanam-by Dr. B.M. Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. KS Patel, V.K. Kori & Rajgopal S.
10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita Vagbhata etc.
11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh

M.S.-AYURVEDA PRELIMINARY
16.SHALYA TANTRA – SAMANYA
(General Surgery)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Etymology and definition of Shalya Tantra.
2. Scope and importance of Shalya Tantra.
3. Study of Sushruta Samhita Sutra Sthana.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and latest investigations.
9. Concept of Rakta according to Sushruta.
10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhya (Prognosis) - Arishtha lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranashtha Shalya.

PART B

50 marks

- Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
- Sterilization – methods and types.
- Basic knowledge of Sangyahan – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
- Concept of Trividha Karma – Purva, Pradhana and Pashchat.
- Ashtavidha Shastra Karmas.
- Bandhana Karma – Ancient and recent advances.
- Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applications.
- Kshara Sutra – Method of preparation, standardization and applications.
- Agnikarma – Introduction, types and applications.
- Raktamokshana – Introduction, types and applications.

- Application of Panchakarma therapy in surgical practice.
- Scope of Pathya-Apathya in the management of surgical diseases.

PG 1st Year Syallabus-49

PRACTICAL

100 marks

Content:-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases
3. Surgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in surgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.
8. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking- Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS:-

1. Sushruta Samhita
2. Ashtanga Sangraha
3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
9. Shalya Pradeepika - Dr. Mukund Swaroop Verma
10. Sushruti - Dr. Ram Nath Dwivedi

11. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
12. Bhagna Chikitsa - Dr. Prabhakar Janardhan Deshpande
13. Kshara sutra management in anorectal ailments - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh.
14. Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
15. Adhunik Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhant - Dr. K.K.Takral
18. Recent advances in the management of

Arshas /Haemorrhoids - Dr. P. Hemantha Kumar

1. Arsha Evum Bhagander Mein sutra Avacharan- Vd. Kanak Prasad Vyas
2. Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
3. Leech application in Ayurveda - Dr. M. Bhaskar Rao
4. Kshara Sutra - Dr. S.N.Pathak
5. Shalya Shalaky Tantra - Vd. S.G. Joshi
6. Surgical ethics of Ayurveda - Dr. D.N. Pande
7. Text book of Surgery - Sabistan
8. Operative Surgery - Rob and smith

PG 1st Year Syallabus-50

1. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell
2. Fractures and Joint Injuries - Watson-Jones
3. Text books of Operative Surgery - Farquharsons'
4. Principles of Surgery - Schwartz
5. Emergency Surgery -Hamilton Bailey's
6. Surgical pathology - Willing Worth
1. Clinical methods in surgery - S. Das
2. Textbook of Operative Surgery - S. Das
3. Shalya Vigyan (Sachitra) - Anantram Sharma
4. Anushastra Karma - Dr. D.N. Pande
5. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
6. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
7. Sangyahan Prakash - Dr. D.N. Pande
8. A concise Text Book of Surgery - S. Das
9. A manual on Clinical Surgery - S. Das
10. A System of Surgical Diagnosis - T.N. Patel
11. A Practical Guide to Operative Surgery - S. Das
12. Drugs and Equipment for Anaesthesia - Arun kumar
13. Manual of Surgical Instruments - M.M. Kapur

14. Ward Procedures - Patel Mansukh. B
15. Recent trends in the management of

Arshas / Haemorrhoids

- Dr. P. Hemantha Kumar

1. Primary Anaesthesia - Maurice King
2. Synopsis of Anaesthesia - Lee
3. Clinical Anatomy/ Surgical Anatomy - John E. Skandalakis
4. Surgical Instruments of the Hindus - Girindharnath Mukopadyay
5. Outline of Orthopedics - John Crawford Adams and David Hamblen. L
6. Outline of Fracture - John Crawford Adams
7. Recent trends in the management of
Bhagandara / Fistula-in-ano - Dr. P. Hemantha Kumar
8. Principles and Practice of Agnikarma - Dr. Anand Kumar and Dr. Kanchan Shekokar.
9. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

PG 1st Year Syllabus-51

M.S.-AYURVEDA PRELIMINARY

17.SHALYA - KSHARA KARMA AVUM ANUSHAstra KARMA

(Para Surgical Procedure including Minimal invasive Surgery)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Etymology and definition of Shalya Tantra.
2. Scope and Importance of Shalya Tantra.
3. Study of Sushrut Samhita Sutra Sthana 1- 46 chapters.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and latest investigations.
9. Concept of Rakta according to Sushruta.

10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhya- Prognosis – Arishtha Lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranastha Shalya.

PART B

50 marks

1. Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
2. Sterilization – methods and types.
3. Basic knowledge of Sangyaharn – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
4. Concept of Trividha Karma – Purva, Pradhana and Pashchat.
5. Ashtavidha Shastra Karmas.
6. Bandhana Karma – Ancient and recent advances.
7. Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applications.
8. Kshara Sutra – Method of preparation, standardization and applications.
9. Agnikarma – Introduction, types and applications.
10. Raktamokshana – Introduction, types and applications.
11. Application of Panchakarma therapy in surgical practice.
12. Scope of Pathya-Apathya in the management of surgical diseases.

PG 1st Year Syallabus-52

PRACTICAL

100 marks

Content :-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases
3. Parasurgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in parasurgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking- Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc.	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS :-

- Sushruta Samhita
- Ashtanga Sangraha
- Ashtanga Hridaya
- Charaka Samhita
- The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
- Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
- Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
- Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
- Shalya Pradeepika - Dr. Mukund Swaroop Verma
- Soushruti - Dr. Ram Nath Dwivedi
- Clinical Shalya Vigyan - Dr. Akhilanand Sharma
- Bhagna Chikitsa - Dr. Prabhakar Janardhan Deshpande
- Kshara sutra management in anorectal ailments and Dr. Kulwant Singh. - Dr. S.K. Sharma, Dr. K.R.Sharma
- Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
- Adhunik Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
- Agnikarma Technology Innovation - Dr. P.D. Gupta
- Shalya Tantra Ke Siddhant - Dr. K.K.Takral
- Recent advances in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
- Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
- Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
- Leech application in Ayurveda - Dr. M. Bhaskar Rao
- Kshara Sutra - Dr. S.N.Pathak
- Shalya Shalaky Tantra - Vd. S.G. Joshi
- Surgical ethics of Ayurveda - Dr. D.N. Pande
- Text book of Surgery - Sabistan
- Operative Surgery - Rob and smith

PG 1st Year Syallabus-53

1. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and

- R.C.G. Russell
2. Fractures and Joint Injuries - Watson-Jones
 3. Text books of Operative Surgery - Farquharsons'
 4. Principles of Surgery - Schwartz
 5. Emergency Surgery -Hamilton Bailey's
 6. Surgical pathology - Willing Worth
 7. Clinical methods in surgery - S. Das
 8. Textbook of Operative Surgery - S. Das
 9. Shalya Vigyan (Sachitra) - Anantram Sharma
 10. Anushastra Karma - Dr. D.N. Pande
 11. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
 12. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
 13. Sangyahan Prakash -Dr. D.N. Pande
 14. A concise Text Book of Surgery - S. Das
 15. A manual on Clinical Surgery - S. Das
 16. A System of Surgical Diagnosis - T.N. Patel
 17. A Practical Guide to Operative Surgery - S. Das
 18. Drugs and Equipment for Anaesthesia - Arun kumar
 19. Manual of Surgical Instruments - M.M. Kapur
 20. Ward Procedures - Patel Mansukh. B
 21. Recent trends in the management of - Dr. P. Hemantha Kumar
 22. Arshas / Haemorrhoids
 23. Primary Anaesthesia - Maurice King
 24. Synopsis of Anaesthesia - Lee
 25. Clinical Anatomy/ Surgical Anatomy - John E.Skandalakis
 26. Surgical Instruments of the Hindus - Girindharnath Mukopadyay
 27. Outline of Orthopedics - John Crawford Adams and David
 28. Hamblen. L
 29. Outline of Fracture - John Crawford Adams
 30. Recent trends in the management of - Dr. P. Hemantha Kumar
 31. Bhagandara / Fistula-in-ano
 32. Principles and Practice of Agnikarma - Dr. Anand Kumar and
 33. Dr. Kanchan Shekokar.
 34. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

PG 1st Year Syallabus-54

M.S.-AYURVEDA PRELIMINARY
18.ASTHI SANDHI AND MARMAGAT ROGA

(Orthopedics and management of vital points)

PAPER II

Theory- 100 marks

PART A

50 marks

1. Etymology and definition of Shalya and Shalya Tantra. Scope and importance of Shalya Tantra.
2. Dosh, Dhatu, Mala and Sarotas vigyan.
3. Knowledge of ancient and recent Yantra and Shastra – Surgical instruments. Ashtavidha Shastra Karma and their application in surgical practice.
4. Trividha Karma – Purva, Pradhan and Pashchat Karma. Modern principles of pre-operative and post-operative care. Clinical application of Purva and Pashchat Karma in modern surgery.
5. Asepsis and Antisepsis. Sterilisation (Nirjantukikarana)-methods and types. O.T. Fumigation.
6. Surgical infections – Sepsis, Cellulitis, Erysepelas, Tetanus, Gas gangrene, Hepatitis, HIV- AIDS etc. Handling and care of HIV and Hepatitis positive patients. Knowledge of conditions like Bacteraemia, Septicaemia, Toxaemia and Pyaemia
7. Concept of Shock - Its varieties etiopathogenesis and management – Cardio-pulmonary resuscitation (CPR), Endotracheal intubation and Tracheostomy.
8. Drug reactions and Anaphylaxis – Management.
9. Sushruta's concept of Rakta and Raktasrava – Haemorrhage – Types, Patho-physiology, clinical features and management. Concept of Raktastambhana – Haemostasis. Blood transfusion – Indications, blood groups, components, compatibility and complications with management.
10. Shatkriyakaala and its applicability in the pathogenesis of surgical diseases.
11. Knowledge of Prakriti and its impact on pathogenesis, clinical features and treatment of orthopedic diseases.
12. Rogi and Rog Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and its application in the diagnosis of diseases.
13. Vranashopha and Inflammation, Nadvrana and Sinuses / Fistulae, Vidradhi and abscesses.
14. Swellings – Arbuda and Tumours, Granthi and Cysts.
15. Anu Shastra Karma like Ksharakarma, Agnikarma, Raktavasechana etc. and their application in orthopedic practice.
16. Pranashta Shalya Vigyan.
17. Fluid, Electrolyte, Acid Base Balance and Nutrition
 1. Introduction to physiology of fluids and electrolytes.
 2. Dehydration and over hydration.
 3. Specific electrolyte losses, symptomatology and management of Acidosis, Alkalosis and Acid-Base balance.
 4. Various replacement fluids in surgery, mode of administration and complications.
 5. Nutrition – pre-operative, peri-operative and post-operative.
 6. Intravenous fluid therapy.
18. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CT scan, MRI and recent advances.

PART B

50 marks

1. Scope of Asthi Sandhi evam Marmaghata Roga specialty and its importance. Historical aspect of Ayurvedic and modern orthopedics and Marma.
2. Marma Sharira – Etymological derivation, definition, basic concept of Marma, origin, classification, Pramana. Consequences of Marmaghata and their management.
3. Vrana Vigyan – Etiology, classification, symptomatology, prognosis and management principles of Nija and Sadyo Vrana. Concept of Shashti Upakrama. Seevana and Suturing, Vrana Bandhana and Bandaging. Modern concept of Wounds and Ulcers, their classification and management principles. Recent wound closure techniques, suture materials, dressing, bandaging materials and techniques. Mechanism of wound healing.
4. Bhagna - Etiology, classification, general management principles, complications and prognosis of the skeletal injuries according to Ayurved and Modern aspect. Mechanism of bone healing.
5. Itrathadagdha and Burns - Etiology, classification, symptomatology, prognosis and management principles. Knowledge of Burns Shock, its prevention and management principles.
6. Principles of initial care of injured person. Handling of poly trauma patient. ARDS (Acute Respiratory Distress Syndrome), Crush Syndrome, Thromboembolism, Fat Embolism syndrome and their management.
7. Systemic response to injury.
8. Pharmacology of emergency drugs, antibiotics, NSAIDs, Opiates, central muscle relaxants.
9. Anesthesiology related to Orthopedics. Pharmacology of local anesthetics and vasoconstrictors. Knowledge of local anesthesia techniques like local anesthetic infiltration, various blocks (e.g. ring block, nerve block, plexus block, field block, hematoma block, costal block etc.) Spinal and epidural blocks.
10. Medico-legal aspects in orthopedics. Knowledge of documentation and record keeping.

PRACTICAL

100 marks

Contents:

- Clinical history taking and examination of orthopedic patient.
- Knowledge of diagnostic and therapeutic principles of Shalya Tantra.
- Identification and functioning of surgical and orthopedic instruments.
- Practical knowledge of documentation and record keeping.
- Practical knowledge of Anu-Shastra Karma.
- Practical Knowledge of Seevan Karma and suturing and Vrana Bandhana and bandaging.
- Knowledge about the management of orthopedic emergencies.
- Knowledge of Purva Karma and Pashchat Karma.
- Practical knowledge of sterilization and OT fumigation.
- Knowledge of handling of medico legal cases and issuing MLCs and other certificates.

PG 1st Year Syallabus-56

Distribution of Marks (practical):

1. Case Records (25 cases) 20marks
2. Bed Side examination-
 - Patient History (Long case) 20 marks

▪ Patient History (Short case) 10 marks

3. Instruments / equipments / models identification 15 marks
4. Medical procedures 15 marks
5. Viva Voce 20 marks

REFERENCE BOOKS-:

1	Sushruta Samhita	Relevant parts
2	Sushruta Samhita (Dalhana commentary)	Relevant parts
3	Charak samhita	Relevant parts
4	Ashtang Hridaya	Relevant parts
5	Ashtang Sangraha	Relevant parts
6	Saushruti	Ramanath Dwivedi
7	Watson and Jones – Fracture and Joint Injuries	J.N. Wilson
8	Practical Fracture Treatment	R. McRae
9	Clinical Orthopedic Examination	R. McRae
10	Apley's System of Orthopedics	Apley Louis Solomon
11	A Concise Text Book of Surgery	S. Das
12	Pye's Surgical Handicraft	
13	Clinical Methods in Surgery	Sriram Bhatt
14	Clinical Methods in Surgery	S. Das
15	Operative Surgery	S. Das
16	Schwartz Principles of Surgery	
17	Bailey and Love's short practice of Surgery	

PG 1st Year Syallabus-57

M.D.-AYURVEDA PRELIMINARY

19. SANGYAHARAN

(Anesthesiology)

PAPER-II

Theory 100 marks

PART-A

50 marks

1. Shisyopanayana, Vishikhanupravesha, Agropaharaniay and Shatkriyakala.
2. Etymology and definition of Sangyaharan and its scope, application and importance in surgical practice.
3. Fundamentals of Ayurveda in relation to Sangyaharan- Panchmahabhuta, Prakriti, Dosha, Dhatu and Mala.
4. Concept of Vedana (pain), pathophysiology and modalities of pain management in Ayurveda.
5. Agni Karma in pain management.
6. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Agni Karma. The indications, contraindications, complications of Agni karma and their management.
7. Raktamokshana (blood letting) in pain management.
8. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Raktamokshana. Indications, contraindications, complications of Raktamokshana and their management.
9. Causes of vitiation of Rakta Dosha and Rakta Dushtijanya Vikaras.
10. Types of Raktamokshana and determination of appropriate amount of blood loss during Raktamokshana according to diseases and patients.
11. Methods of Raktastambhana.
12. Leech Therapy in pain management. Varieties, importance, methods of applications, indications, contraindications,

complications and their management and method of maintenance of leeches.

13. Trividha Karma – Purva karma (preanaesthetic management), Pradhana karma(induction and maintenance) and Pashchat Karma (post anesthetic care).
14. Concept of Marma, their importance and application in Sangyaharan.
15. Concept of palliative care and its role in terminally ill patient care in Ayurveda.

PART-B

50 marks

History of anesthesia.

1. Molecular basis of anesthesia, cell physiology and body fluids.
2. Respiratory system: Anatomy of the upper airway – nose, pharynx, larynx, tracheobronchial segment, mechanics of respiration, physiology of respiration, ventilation, perfusion matching, lung volumes and capacities, pulmonary gas exchange and transport of gases, lung function tests – including laboratory tests for obstructive and restrictive lung diseases.
3. Cardiovascular system: Anatomy and physiology of heart and autonomic nervous system, maintenance of blood pressure, systemic circulation, pulmonary circulation, microcirculation and lymphatics.
4. Nervous system: Anatomy and physiology of central nervous system, cranial nerves, nerve plexuses, spinal column. Physiology of sleep, sleep disorders, physiology of pain, physiology of neuromuscular junction, autonomic nervous system – sympathetic and parasympathetic.
5. Endocrinology as related to anesthesia: Function of anterior and posterior pituitary and their dysfunction, hyper and hypothyroidism, hyper and hypoparathyroidism, diabetes mellitus – hypo and hyperglycemia, ketoacidosis. Adrenal cortex and medulla functions and disorders.
6. Pathophysiology of renal failure, renal function tests.

PG 1st Year Syallabus-58

9. Pathophysiology of hepatic failure, liver function tests.
10. Shock and its management.
11. Fluid and electrolyte, acid base balance, ABG interpretation and water intoxication
12. Thermoregulation.
13. Pre anesthetic assessment and permedication.
14. Physics applied to anesthesia: Gas laws, ventilators & monitors, flow meters, vaporizers, breathing systems, carbon-dioxide absorbers, medical gas supply, suction machines, electrical fire & explosion hazards, pollution in O.T.
15. Sepsis, asepsis and sterilization- methods, types of sterilization of machine and equipments with special reference to tetanus, hepatitis, HIV-AIDS etc. O.T. fumigation.
16. Intravenous fluids, crystalloid & colloids, their indications, contra indications, complications and their management.
17. Blood transfusion-indication, contra indications, complications and their management, component therapy.
18. Medicolegal and ethical aspects in research and patient care. Medico legal issues, understanding the implications of acts of omission and profession, National Health policy - implications in a medico legal case like accidents, negligence, assaults etc.
19. Anaesthesia documentation and record keeping.

PRACTICAL

100 marks

Contents:

1. Anesthetic Drugs.
2. Demonstration of induction of Anesthesia.
3. Preanaesthetic assessment of patients.
4. Post anesthesia management.
5. Complications of anesthesia and their management.
6. Identification of instruments and knowledge of their use.

Distribution of marks (Practical)

1. Anesthesia documentation & record keeping - 20 Marks
2. Bedside clinical case taking
3. Long Case - 20 Marks
4. Short Case - 10 Marks
5. Procedure - 15 Marks
6. Identification of instruments & Spotting - 15 Marks
7. Viva-voce - 20 Marks

REFERENCE BOOKS

1. Sushruta Samhita
2. Charka samhita
3. Ashtang Hridaya
4. Practice of Anesthesia - Churchill Davidson
5. Miller's Anesthesia - Ronald D Miller
6. Synopsis of Anesthesia - Alfred Lee
7. Sangyahan Prakash - Dr. D. N. Pande
8. Agni karma-Technological Innovation - Dr. P.D. Gupta
9. Practice of Anesthesia and Resuscitation - Dr. P.K. Gupta et al
10. Essentials of Anesthesiology - Prof. A.K. Paul
11. Clinical Anesthesia - Prof. A.K. Paul
12. Anu Shastra karma - Dr. D.N. Pande
13. Textbook of Anesthesia - Aitkenhead
14. Anesthesia and co-existing disease - Stoelting's

PG 1st Year Syllabus-59

M.S.-AYURVEDA PRELIMINARY

20. SHALAKYA - NETRA ROGA

(Ophthalmology)

PAPER-II

Theory- 100 marks

PART-A

50 marks

1. Shalakya Tantra Parichaya, Itihas and Pradhanyam.
2. Netra Sharir and related Marmas
3. Study of Dosha, Dhatu, Mala and Srotas in context to Netra chikitsa.
4. Updated knowledge of Agropaharaniya in Netra chikitsa- incorporating sterilization, Sangyahaarana (Anaesthesia).
5. Basic pharmacology of common drugs required in ocular diagnostic and therapeutic procedures.
6. Vrana Siddhanta-Trividha Shophya, Shuddha-Ashuddha Vrana, Vrana Srava, Vrana Bandha, Vranitopasana in context to Netra chikitsa.
7. Swasthavritta related to Netra.
8. Chaturvidha Chikitsa Siddhanta and Raktamokshana in Netra chikitsa.
9. Applied knowledge of various Kriyakalpas and other therapeutic procedures related to Netra chikitsa.
10. Role of Panchkarma in Netra chikitsa.
11. Netra Chikitsa Upayogi Vishishta Yoganam, Guna, Karma prayog gyanam of most common classical Yogas.

PART-B

50 marks

- Applied anatomy and physiology of eye, its adnexa and visual pathway.
- Clinical methods of eye examination.
- Application of various aids and techniques in the examination of eye viz Tonometry, direct Ophthalmoscopy, Perimetry, Refraction and Slit Lamp examination with their interpretation.
- Fundamentals of optics and refraction.
- Applied aspects of Aetio-Pathogenesis, clinical features, prognostic and therapeutic principles in Netra Roga Chikitsa along with Pathya-Apathya and their contemporary knowledge.
- Common ocular emergencies and their management.
- Applied aspects of Yantra and Shastra in Netra Chikitsa along with modern ophthalmic surgical instruments and equipments.
- Knowledge of rules, regulations and medico legal aspects of ophthalmic practice including eye donation, eye banking and corneal grafting.
- Knowledge of handling of biomedical waste.

PG 1st Year Syallabus-60

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD/IPD/Kriyakalpa Kaksha & OT

2. Clinical case presentation (10 cases)
3. Case record (20 cases)
4. Hands on training in Kriyakalpa

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Kriyakalpa procedure - 15 Marks
6. Identification of specimens and Instruments - 15 Marks
7. Viva-voce - 20 Marks

REFERENCE BOOKS:-

- 1 Charka Samhita with commentaries
- 2 Sushrut Samhita and vaghbhata with commentaries
- 3 Astanga hridaya and Astanga sangraha with commentaries
- 4 Madhava nidan with commentaries
- 5 Bhavaprakasha with commentaries
- 6 Sarangadhara Samhita with commentaries
- 7 Sahstrayoga Sangraha
- 8 Relevent part of Chakradhatta, Bhel Samhita, Harita Samhita
- 9 Shalaky Tantra - Ramanath Dwivedi
- 10 Shalaky Tantra - R.C. Chaudhary
- 11 The Actions and uses of Indigenous Ophthalmic Drugs - N.Srikanth
- 12 Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
- 13 Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
- 14 Disease of the Lens and Vitrous, Glaucoma and Hypotony - Duke Elder, St. Louis
- 15 A Text Book of Ophthalmology - Ahmed E.
- 16 A Text book of clinical ophthalmology - Dhanda
- 17 Modern Ophthalmology - Dutta, L.C. Jaypee Brothers

18	Manual of the Diseases of the Eye Bailliere Tindal and Castell	- May,C.and Worth,C.
19	Ophthalmology – Principles and Concepts Mosby Co., St. Louis.	- Newell, F.W., C.V.
20	Ocular Differential Diagnosis Lea and Febiger	- Roy Fedrick Hamptn
21	Clinical Ophthalmology Company	- Smith, R.Vergheese
22	Abrahm Manual of Refraction	- Duke and Elder
23	Hand Book of ophthalmology	- B.M. Chaterjee
24	Hand Book of ophthalmology	- Khurana
25	Clinical ophthalmology	- Kanski
26	Parsons Diseases of Eye	
27	Stallard’s Eye Surgery	

PG 1st Year Syallabus-61

M.S.-AYURVEDA PRELIMINARY
21. SHALAKYA- DANTA AVUM MUKHA ROGA
(Dentistry and Oral Disease)

Theory- 100 marks

PAPER-II

PART-A

marks 50

1. Shalakyia Tantra Parichaya, Itihas avum Pradhanyam.
2. Mukhasharir.
3. Study of Dosha, Dhatu, Mala and Srotas in context to Danta and Mukha Roga.
4. Agropaharaniya in Danta and Mukha Roga incorporating sterilization, Sangyahaarana and diagnostic and therapeutic pharmacological agents.
5. Vrana Siddhanta-Trividha Shopha, Shuddha-Dushta Vrana, Vrana Bandha and Vranitopasana in relation to Danta and Mukha Roga.
6. Swasthavritta related to Danta and Mukha Roga.
7. Chaturvidha Chikitsopaya (Bheshaja-Shastra-Kshara-Agni) Siddhanta and Raktamokshana related to Danta and Mukha Roga.
8. Applied knowledge of various Kriyakalpa and other therapeutic procedures related to Danta and Mukha Roga.

9. Role of Panchkarma in Danta and Mukha Roga.

10. Mukha and Danta Chikitsopayogi Aushadha Kalpana Parijnanam e.g. Dashana Samskara Manjana, Shwetamanjana, Vajradanta Manjana, Khadiradi Vati, Irimedadi Taila, Peetaka Churna, Kalaka Churna, Nimbadi Churna and Bhadramustadi Vati.

PART-B

50 marks

1. Applied orodental anatomy and physiology.
2. Clinical methods adopted in orodental practices.
3. Knowledge of advanced diagnostic techniques, equipments and tests of importance in orodental practices with their interpretations.
4. Classification, aetiopathogenesis, clinical features and therapeutics of Oshtha, Danta, Dantamula, Jihva, Talu and Sarvasar Mukharogas in the light of modern knowledge.
5. Basics of Sandhana Vidhi in Mukha and Danta Roga.
6. Applied aspect of Dysphagia, Manyastambha, Hanumoksha, Apachi (Cervical Lymphadenopathy) and Herpes.
7. Handling of biomedical waste.

PG 1st Year Syallabus-62

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa.

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Kriyakalpa procedure - 15 Marks
6. Identification of specimens, radiograph and instruments - 15 Marks
7. Viva-voce - 20 Marks

Reference Books

1. Sushrut Samhita - -Dalhana
2. Useful Portion of Charak Samhita-Ashtang Samgraha -Ashtang Hridaya
3. Useful portion of Laghutrayi related to Danta and Mukha Roga
4. Shalaky Vijnanam - Ravindra Chandra Chaudhary
5. Nimi Tantra - Ramanath Dwivedi
4. Dental Anatomy Histology - Dr. S.I. Bhalajhi
5. Essentials of Preventive and Community Dentistry -Dr. Soben Peter
6. Complete Denture Prosthodontics - Dr. J.J. Manappallil
7. Orthodontics the Art and Science - Dr. S.I. Bhalajhi
8. Text book of Pediatric Dentistry - Dr. S.G. Damle
9. Text book of Oral and Maxillofacial surgery -Dr. Vinod Kapoor
10. Clinical Periodontology - Dr. B.R.R. Varma
11. Anatomy for Dental Students - Inderveer Singh
12. Clinical Periodontology - Carranza , Newman
13. Operative Dentistry - M A Marzouk
14. Oral and maxilofacial surgery secrets - A.Omar Abubaker
15. Killey and Kay's Outline of Oral Surgery - Girdon R Seward
16. Clinical Dentistry - Ivor G. Chestnut , John Gibson
17. Synopsis of Oral Pathology - S N Bhaskar
18. Oral Pathology - Stone

PG 1st Year Syallabus-63

M.S.-AYURVEDA PRELIMINARY

22. SHALAKYA- SHIRO-NASA- KARNA- AVUM KANTHA ROGA (ENT & HEAD & Neck Disease)

PRACTICAL

Theory- 100 marks

PART A

50 marks

1. Shalaky Tantra Parichaya, Itihas and 'Pradhanya'. Establishment of 'superiority of Shiras' among all the organs. Determination and importance of the verse 'Nasa hi Shirso Dvaram'.
2. Shiro-Nasa- Karna- Avum Kantha Shariram and knowledge of related Marmas.
3. Study of Dosha- Dhatu-Mala and Srotas in context of Shiro-Nasa- Karna- Avum Kantha Chikitsa.

4. Agropaharaniya in Shiro-Nasa- Karna- Avum Kantha Chikitsa including sterilization and anesthesia.
5. Basic pharmacology of common modern drugs used in diagnostic and therapeutic procedures related to Shiro-Nasa- Karna- Evum Kantha Chikitsa.
6. Vrana Siddhanta- Trividha Shophya, Shuddha- Dushta Vrana, Vrana Bandha and Vranitopasan in context of Shiro-Nasa- Karna- Avum Kantha Chikitsa.
7. Swasthavritta related to Shiro-Nasa- Karna- Avum Kantha.
8. Chaturvidha Chikitsopaya (Bheshaja- Shastra-Kshar -Agni) and Raktamokshan related to Shiro-Nasa- Karna- Evum Kantha Chikitsa.
9. Applied knowledge of various therapeutic modalities like Shirobasti, Shirodhara, Shirovirechana, Nasya, Karna Pooran, Karna Dhoopan, Kaval, Gandusha etc.
10. Role of Panchkarma in Shiro-Nasa- Karna- Avum Kantha Chikitsa.

PART B

50 marks

1. **Shiras-** Applied anatomy and physiology of skull and intracranial contents. Clinical methods and knowledge of common diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Shiras and Kapaal Rogas in the light of modern knowledge.
2. **Nasa** - Applied anatomy and physiology of nose and paranasal sinuses. Clinical methods and knowledge of common nasal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Nasa Rogas in the light of modern knowledge.
3. **Karna-** Applied anatomy and Physiology of ear and related structures. Clinical methods and knowledge of common aural diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Karna Rogas in the light of modern knowledge.
4. **Kantha** - Applied anatomy and physiology of throat. Clinical methods and knowledge of common pharyngeal and laryngeal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Kanthagata Rogas in the light of modern knowledge.

PG 1st Year Syallabus-64

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa.

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination
 - A. Long case - 20 Marks
 - B. Short case - 10 Marks
 - C. Kriyakalpa procedure - 15 Marks
3. Identification of specimens and Instruments - 15 Marks
4. Viva-voce - 20 Marks

REFERENCE BOOKS:-

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Modern books related to ENT disorder
7. Diseases of Nose Throat and Ear - Bhargav Shah
8. Diseases of Nose Throat and Ear, Head and Neck EB Edr.
9. A Textbook of otorhinololaryngology - Scott Browns editions.
10. Text book of Ear Nose Throat diseases – Dhingra
11. Textbook on ENT – Mohd. Maqbool
12. Logan Turner’s book on ENT
13. Ballengers text book of ENT
14. Kumin’s text book of ENT
15. Rob Smith’s book of ENT surgery
16. Paprella’s book of ENT
17. Hazarika’s text book on ENT
18. Books on examination of ENT
19. Audiology Anirwan Biswas
20. Kurt’s Audiology
21. Books on Speech therapy

SYLLABUS FOR II & III YEAR PG COURSE

Syllabus for final year

Subject 1. AYURVED SAMHITA & SIDDHANT

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

PAPER –I Charaka

1. Charaka Samhita with Ayurved Dipika commentary by Chakrapani.
2. Introduction to all available commentaries on Charak Samhita.

PAPER –II Sushruta & Vagbhata

1. Sushruta Samhita Sutra sthana and Sharir-sthana 1st chapter with Nibandha Samgraha commentary by Acharya Dalhana.
2. Ashtang-Hridayam Sutra Sthananam with Sarvanga Sundara commentary by Arun Dutt.
3. Ashtang-Sangraha Sutra Sthananam with Induteeka
4. Introduction to all available commentaries on Sushrut Samhita, Ashtang Hridaya and Ashtang-Sangraha.

PAPER – III Darshanika Siddhanta

Understanding of Indian philosophical principles available in Charak Samhita, Sushrut Samhita, Ashtanga Hridya and Ashtang Samgraha.

1. Analysis of principles specially Chaturvidha Siddanta, loka-purusha samya, Ayusho Siddhant, Shadpadartha, Praman, Srishti Utpatti, Karana- Karyavada, Tantrayukti, Nyayas (Maxims), Vadamarga, Atmatatva & Manastatva Siddhant.
2. Clinical importance of Satkaryavad, Asatkaryavada, Parmanuvada, Swabhavoparamvada.
3. Practical applicability of principles of Samkhya- Yoga, Nyaya-Vaisheshika, Vedanta and Mimansa Darshan.
4. Intoduction to the principles of Charvak, Jain & Bauddha Darshana.

PAPER – IV Prayogika Siddhant.

1. Comparative study of the Samprapti & Chikitsa Sootra mentioned by Brihatrayee of following disises – Jvara, Raktpitta, Gulma, Prameha, Kushta, Shosha, Unmada, Apasmar, Atisara, Grahni, Vatrakta, Aamvata, Shwasa-Kasa, Pandu-Kamla, Urustambha, Vatavyadhi, Shotha, Udararoga, Yakshma,
2. Critical analysis and applied study of the following concepts - Triguna, Tridosha, Panchamahabhuta, Prakrtisamsaveta & Vikrativishamsamveta, Sharira & Manas Prakruti, Sama-Nirama, Agni, Ojus, vyadhikshamatva, Vikarvighatbhavabhava, Kalakalmrtyu, Ahara-Vihara, Pathyapathya, Satmyaasatmya, Nidanarthakarroga, Shadavidhakriyakal, Ashtatrika, Shadaupakrama, Daiva-drishta, Punrjanma Anubandha Chatushtya, (comparative study of above concepts from Brihatrayee, Laghuttaryee with available Sanskrit commentaries)
3. Intoduction to Laghuttaryee with available Sanskrit commentaries.

**Practical- Viva-voce
Marks**

- 100

(At list one paper should be published/accepted in journal, Long Case, Topic Presentation, Thesis Viva, General Viva, =100)

Reference Books

1. Charak Samhita - Chakrapani commentary.
2. Sushruta Samhita - Dalhana Commentary.
3. Ashtanga Samgraha - Indu Teeka.
4. Ashtanga Hridaya - Sarvangasundara.
5. Vaisheshika Sutra – Prashastapada Bhasya
6. Nyaya Sutra - Vatsyayan Bhasya
7. Ayurvede nyayah

8. Nyayas in Brihattriye
9. Yoga Sutra - Vyas Bhasya
10. Vedantasara
11. Sarvadarshan Samgraha
12. Bhartiya Darshan - Baldev Upadhyaya.
13. Ayurved Darshanam - Acharya Rajkumar Jain.
14. Ayurved Darshan Vimarsha- Dr O.P. Upadhyay.
15. Ayurvediy Jeevak Su -Dr O.P. Upadhyay.
16. Padartha Vidnyan - Dr O.P. Upadhyay.
17. Scientific Exploration of Ayurved – Dr. Sudhir Kumar.
18. Charak Samhita – Prof. B.L. Gaur
19. Ashtang Hridaya – Dr T. Shri Kumar

2. RACHANA SHAARIRA

Marks - Theory : 400
Practical: 100

PAPER-I **GARBHA SHAARIRA**

100 Marks

1. Etymology of Garbhavakranti Shaarira, features of Shukra and Shonita, description of Beeja, Beejbhaga, Beejbhagavayava and Garbhotpadaka bhava, Garbha Poshana Krama, Garbhavridhikar Bhavas, Masanumasika Garbhavridhi, Foetal circulation. Explanation of lakshanas occurring in Ritumati, Sadyaha grihita garbha. Yamal garbha , Anasthi garbha.
2. Explanation of Basic Embryology and Systemic Embryology.
3. Knowledge of basic facts of advancement in Anuvamshiki (Genetics) and Garbhaja vikaras (Teratology).

PAPER –II **KOSHTHANGA SIRI DHAMANI SROTAS SHAARIRA**

100 Marks

- 1) **Koshthanga Shaarira:** - Detail etymological derivation of 'Koshtha' and Koshthanga, including detail study of structure of each Koshthanga. Male and Female genital organs.
- 2) **Ashaya:** - Definition & detail description.
- 3) **Kala Shaarira:-**Etymology, Definition, description of Seven Kalaas with their Modern component and applied aspects.
- 4) **Paribhashaa Shaarira:** - Snayu, Kandara, Rajju, Sanghata, Jala etc. and their general description.
- 5) **Sira, Dhamani and Srotas Shaarira:** - Etymological derivation, definitions, synonyms, number and types of Sira, Dhamani and Srotas, Anatomical differences among Sira, Dhamani and Srotas, description of Vedhya and Avedhya Sira (Puncturable and Non puncturable Veins) and clinical importance of Sira, Dhamani and Srotas including Modern Anatomical counterparts.

PAPER –III **Marma Shaarira Evum Asthi Sandhi Peshee Shaarira**

100 Marks

- 1) **Marma Shaarira:-** Derivation and definitions of the term Marma and their features, characteristics and number of Marma according to Sushruta. Divisions of Marma on morphological basis (Rachana Bheda), Shadangatvam (Regional), Abhighataja (Prognostic) classification, Trimarma according to Charaka. Knowledge of 'Marmaabhighata', MarmaViddha, Detail study of individual Marma with their Clinical and Surgical importance. Importance of Marma in Shalyatantra.
- 2) **Asthi Shaarira :-** General introduction and description of Asthi, differences among number of Asthi.Types of Asthi. Detail study of each bone with its ossification & Applied anatomy.
- 3) **Sandhi Shaarira :-** Etymological derivation,description, features, number, types and Applied anatomy of all Sandhis (Joints).
- 4) **Peshee Shaarira :-** Etymological derivation, description, features, number, types and Applied anatomy of all Peshees (Muscles).

3. KRIYA SHARIR

Paper- I (Dosa-Dhātu-Mala Vijñāna)

Contribution of different Ayurveda Samhita in Kriya Sharir

- Theory of Pancamahābhūta
- Principle of Loka-Purusa Sāmya
- Importance of Sāmānya - Viśesa Principle.
- Different views on the composition of Purusa and the importance of Cikitsya Purusa.
- Importance of Gurvādi Guna in Ayurveda.
- General description of Tridosā theory
- Mutual relationship between Triguna-Tridosā-Pancamahābhūta-Indriya.
- Mutual relationship between Rtu-Dosā-Rasā-Guna.
- Biological rhythms of Tridosā on the basis of Day-Night-Age-Season and Food intake.
- Role of Dosā in the formation of Prakṛti of an individual.
- Role of Dosā in Health and Disease.
- **Vāta Dosā:** General locations (*Sthāna*), general attributes (*Guna*) and general functions (*Sāmānya Karma*). Five subdivisions of *Vāta* with their specific locations, specific properties, and specific functions (*Prāna, Udāna, Samāna, Vyāna, Apāna*)
- **Pitta Dosā:** General locations (*Sthāna*), general attributes (*Guna*) and general functions (*Sāmānya Karma*). Five subdivisions of *Pitta* with their specific locations, specific properties, and specific functions (*Pācaka, Ranjaka, Ālocaka, Bhrājaka, Sādhaka*). Similarities and differences between *Agni* and *Pitta*.
- **Kapha Dosā:** General locations (*Sthāna*), general attributes (*Guna*) and general functions (*Karma*) of *Kapha*. Five subdivisions of *Kapha* with their specific locations, specific properties and specific functions (*Bodhaka, Avalambaka, Kledaka, Tarpaka, Ślesaka*).
- Applied physiology of Tridosā Principle: *Kriyākāla, Dosā Vrddhi-Dosā Kṣaya*.
- **Dhātu Posana:** Process of nourishment of *Dhātu*. Description of various theories of *Dhātu Posana* (*Kṣīra-Dadhi, Kedāri-Kulya, Khale Kapota* etc).
- **Dhātu:** General introduction and definition of *Dhātu*. Formation, Definition (*Nirukti*), Distribution, Attributes, quantity, classification, *Pāñcabhautika* composition and Functions of all seven *Dhātus* in detail: *Rasā, Rakta, Māmsa, Meda, Asthi, Majjā, Śukra*.
- Applied physiology of *Dhātu*: Manifestations of *Kṣaya* and *Vriddhi* of each *Dhātu*. Description of *Dhātu Pradosaja Vikāra*.
- Description of *Āśraya* and *Āśrayī* kind of relationship between *Dosā* and *Dhātu*.
- Description of the characteristic features of *Astavidha Sāra*. Description of *Rasavaha, Raktavaha, Māmsavaha, Medovaha, Asthivaha, Majjāvaha* and *Śukravaha Srotāmsi*.
- **Ojas:** Definition, locations, synonyms, Formation, Distribution, Properties, Quantity, Classification and Functions of *Ojas*. Description of *Vyādhikṣamitva, Bala Vrddhikara Bhāva*. Classification of *Bala*. Relation between *Ślesmā, Bala* and *Ojas*.
- Applied physiology of *Ojas*: Etiological factors and manifestations of *Ojaksaya, Visramsa* and *Vyāpat*. Physiological and clinical significance of *Ojas*.

- **Upadhātu:** General introduction and Definition of the term 'Upadhātu'. Formation, Nourishment, Quantity, Properties, Distribution and functions of each Upadhātu.
- **Stanya:** Characteristic features and methods of assessing Śuddha and Dūṣita Stanya, Manifestations of Vrddhi and Kṣaya of Stanya.
- **Ārtava:** Characteristic features of Śuddha and Dūṣita Ārtava. Differences between Raja and Ārtava, Physiology of Ārtavavaha Srotāmsi.
- Study of Tvak
- **Physiology of Mala** - Definition of the term 'Mala'. Definition, Formation, Properties, Quantity and Functions of Purīsa, Mutra. Manifestations of Vrddhi and Kṣaya of Purīsa and Mūtra.
- **Sveda** – Definition, Formation, Properties, Quantity and Functions of Svedavaha Srotāmsi. Formation of Sveda. Manifestations of Vrddhi and Kṣaya of Sveda.
- **Dhātumala** – Definition, Formation, properties, Quantity, Classification and Functions of each Dhātumala .

Paper-II – Prakṛti Evam Sattva Vijñāna

- **Deha-Prakṛti:** Various definitions and synonyms of the term 'Prakṛti'. Factors influencing the Prakṛti. Classification of Deha-Prakṛti. Characteristic features of the individuals belonging to each kind of Deha-Prakṛti. Recent advances in understanding the Prakṛti.
- **Manas Prakṛti :** Types of Manas Prakṛti with their characteristic features and its Practical implication, Properties of Satwā, Rajas, Tamas and their effect on mind.
- **Pancajnanendriya:** Physiological description of Pancajnanendriya and physiology of perception of Śabda, Sparśa, Rūpa, Rasa, Gandha. Indriya-panca-pancaka; Physiological description of Karmendriya.
- **Manas** – Definition, location (sthana), Properties, Functions and Objects of Manas.
- **Ātmā** – Definition, Properties of Ātmā. Difference between Paramātmā and Jīvātmā; Characteristic features of Ātmā.
- **Buddhi** – Location, Types, Functions of Buddhi; Physiology of Dhī, Dhṛti and Smṛti.
- **Nidrā** – Definition of Nidrā, Classification of Nidrā. Tandra, physiological and clinical significance of Nidra; Svapnotpatti and Svapnabheda.
- Physiology of special senses
- Physiology of Intelligence, Memory, Learning and Motivation.
- Physiology of sleep.
- Physiology of speech and articulation.
- Physiology of Pain and temperature.

Paper-III - Kosthanga Kriya Vijñāna

- **Āhāra:** Definition and significance of Āhāra. Classification of Āhāra. Āhāra-vidhi-vidhāna. Asta āhāra-vidhi viśeṣāyatana, Āhāraparināmakara bhāva.
- **Āhārpāchana:** Āhāra Pāka Prakriyā, Description of Annavaha Srotās. Description of Avasthāpāka and Nishthapāka. Role of doṣha in Āhārapāka. Sāra and Kitta Vibhajana. Absorption of Sāra. Utpatti and Udeeran of Vāta-Pitta-Kapha.
- Definition of the term Kostha. Physiological classification of Kostha and the characteristics of each kind of Kostha.

- Agni: Description of the importance of Agni. Classification of Agni. Locations, properties and functions of Jātharāgni, Bhūtāgni, and Dhātvagni.
- Applied physiology of Agni in Kriyā Śārīra and Cikitsā.
- Description of the aetiology and features of Annavaḥa Srotodusti. Applied physiology of Annavaḥa Srotās: Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla Agnimāndya.
- Description of the process of digestion of fats, carbohydrates and proteins in human gastrointestinal tract. Different digestive juices, their enzymes and their mechanisms of action. Functions of Salivary glands, Stomach, Pancreas, Small intestine, Liver and large intestine in the process of digestion and absorption.
- Movements of the gut (deglutition, peristalsis, defecation etc.) and their control. Role of neuro-endocrine mechanisms in the process of digestion and absorption. Enteric nervous system.
- Applied physiology of gastrointestinal tract: Vomiting, Diarrhoea, Malabsorption etc.
- Recent advances related to the gut microbes and their role in health and disease.
- Introduction to biochemical structure, properties and classification of proteins, fats and carbohydrates.
- Description of the processes involved in the metabolism of proteins, fats and carbohydrates.
- Vitamins: sources, daily requirement and functions. Physiological basis of signs and symptoms of hypo and hyper-vitaminosis.

Paper-IV - Modern Physiology and its applied aspect

General Physiology:

- Definition and mechanisms of maintenance of Homeostasis. Cell as the living unit of the body. Membrane Physiology. Transportation of various substances across cell membrane. Resting membrane potentials and action potentials. The internal environment. Genetic code, its expression and regulation of gene expression.

Physiology of Neuro-Immune-Endocrine Mechanisms:

- Physiology of Nervous System. General introduction to nervous system: neurons, mechanism of propagation of nerve impulse.
- Study of CNS, PNS and ANS. Sensory and motor functions of nervous system. Functions of different parts of brain and spinal cord, Hypothalamus and limbic system
- Physiology of Endocrine system. Classification and characteristics of different hormones. Description of hormones secreted by Hypothalamus, Pituitary gland, Thyroid gland, Parathyroid glands, Pancreas, Adrenal glands and their physiological effects. Effects of hypo and hyper-secretion of various hormones.
- Male and Female reproductive physiology. Spermatogenesis and Oogenesis. Hormonal regulation of uterine and ovarian cycles. Physiology of pregnancy, lactation and Parturition.
- Adipose tissue and its Function. Circulating lipids. Description of lipoproteins like VLDL, LDL and HDL and their composition.
- Physiology of immune system. Definition and classification of immunity: Innate, acquired and artificial. Mechanisms involved in humoral and cell mediated immunity.

Cardiovascular physiology, Respiratory physiology and Blood:

- Physiology of Cardio-Vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control. Regional circulations. Physiology of lymphatic circulation.
- Physiology of Respiratory system: Functional anatomy of respiratory system. Ventilation. Mechanism of respiration. Exchange and transportation of gases. Neural and chemical control of respiration. Spirometry and lung function tests. Artificial respiration.
- Functions of Haemopoetic system: Composition and functions of blood and blood cells. Haemopoiesis- (stages and development of RBCs, WBCs and platelets); Introduction to bone marrow: composition and functions of bone marrow. Structure and functions of haemoglobin, mechanism of blood clotting, study of platelets. physiological basis of blood groups. Principles of blood transfusion, plasma proteins- synthesis and functions. Applied physiology: Anaemia, Jaundice.

Musculoskeletal Physiology:

- Physiology of muscles. Classification of muscles. Electrical and mechanical properties of Cardiac, skeletal and smooth muscles.

Physiology of Excretion:

- Physiology of excretion. Functional anatomy of urinary tract. Functions of kidneys. Mechanism of formation of urine. Control of micturition. Renal function tests.
- Structure and functions of skin, sweat glands and sebaceous glands.

Physiology during special states:

- Space Physiology
- Exercise Physiology
- Physiology of high altitude and deep sea
- Physiology of Yoga
- Physiological response to environmental changes
- Physiological response to Vega Vidharana (Holding Natural urges)

Learners should be well versed with the following instruments-

- Physiograph, Computerised spirometry, Biochemical Analyzer, Pulse oxymeter, ELISA Reader, Hematology Analyzer, Tread mill, etc.

Bridge areas including recent advances:

- Recent studies in biorhythms.
- Recent advances in Neuro-Immune-Endocrine physiology.
- Recent advances in understanding the Prakrti. Brief description related to some of the recent studies exploring the genetic / biochemical / haematological /

electrophysiological basis for prakrti. Introduction to the recent tools to assess prakrti (questionnaires and software.)

- Recent advances in tissue engineering and stem cell research.

PRACTICAL

Ayurvedic practicals

- Assessment of Prakrti
- Assessment of Sāra
- Assessment of Dosa Vrddhi Ksaya Laksana
- Assessment of Dhātu Vrddhi – Ksaya Laksana
- Assessment of Agni
- Assessment of Kostha
- Assessment of Śarīra Bala through Vyāyāma Śakti
- Mūtra Parīksa
- Nāḍī Parīksā
- Anguli Pramāna
- Assessment of Sātmya

Hematology

- Use and care of Compound microscope
- Histological study of different organs
- Hemoglobin estimation
- Total RBC count
- Total WBC count
- Differential leukocyte count
- Packed cell volume (PCV)
- ESR
- Bleeding time
- Clotting time
- Blood grouping and Rh typing

Urine examination

Physical, chemical and microscopic examination

- Specific gravity and reaction of urine
- Detecting the presence of Albumin in urine
- Detecting the presence of Sugar in urine
- Detecting the presence of Ketone bodies in urine
- Detecting the presence of Bile salts and bile pigments in urine
- Detecting the presence of pus cell, casts etc. in urine.

Cardio-Vascular system

- Clinical methods of examining cardiovascular system
- Examination of Arterial Pulse

- Arterial blood pressure measurement: Effect of posture, exercise and cold pressor test on Blood Pressure
- ECG recording and its interpretation
- Heart Sounds

Respiratory system

- Clinical examination of Respiratory System
- Lung Function Tests including Spirometry

Nervous System

- Clinical examination of nervous system
- Examination of higher mental functions
- Examination of cranial nerves
- Examination of reflexes
- Examination of sensory functions
- Examination of motor functions
- Examination of Autonomic Nervous System
- EEG recording (Demonstration)

Requirements to be fulfilled before final examination

- Atleast 10 theory classes for First Prof. BAMS Students
- Participation and presentation of papers in at least 2 National / International Seminars.
- Publication / acceptance of at least 1 research paper / article in a scholarly journal.

PATTERN OF EXAMINATION

Theory

Paper I	100
Paper II	100
Paper III	100
Paper IV	100

Practical

Marks Distribution

- | | |
|---------------------------|----|
| • Practical Record Book - | 05 |
| • Ayurvedic Practical - | 10 |
| • Modern Practical - | 10 |

• Assesment of Teaching skill-	10
• Project work -	10
• Presentation of Thesis -	15
• Viva Voce –	<u>40</u>
Total marks	100

Reference Books

- Ayurvediya Kriyasharir - Ranjit rai Desai
- Kayachikitsa Parichaya - C. Dwarikanath
- Prakrit Agni Vigyan - C. Dwarikanath
- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
- Doshha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Doshha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
- Sharir Kriya Vigyana - Shri Moreshwar Dutt. Vd.
- Sharira Kriya Vijnana (Part 1 and 2) - Nandini Dhargalkar
- Doshha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P.C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V.J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra
- Sharir Kriya Vigyana Verma. - Prof. Jayaram Yadav & Dr. Sunil
- Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) - Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book - Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 - Dr.R.R.Deshapande, Dr.Wavhal
- Sharir Kriya Part 2 - Dr.R.R.Deshapande, Dr.Wavhal
- Textbook of Physiology - Gyton & Hall
- Review of medical physiology - William Ganong
- Essentials Of Medical Physiology - Sembulingam, K.
- Concise Medical Physiology - Chaudhari, Sujit. K.
- Fundamental of Anatomy & Physiology - Martini
- Principals of Anatomy & Physiology - Tortora & Grabowski
- Human Physiology - Richards, Pocock
- Samson Wrights Applied Physiology, Keele, Neil, joels

- Brainstem Control of Wakefulness And Sleep- Steriade, Mirce
- An Introduction to Human Physiology - Green, J.h.
- Ancient Indian Medicine - Kutumbiah P.
- Biographical History of Indian Medicine - Srikanthamurthy KR
- Ayurveda Kriya Sharira - Yogesh Chandra Mishra
- Textbook of Medical Physiology - Indu Khurana
- Tridosha Theory - Subrahmanya Shastri
- Statistics in Medicine - K. Syamalan
- Prayogika Sharir kriya Prasad - Prof. M.S.Meena & Dr. Mahendra

Important journals to refer:

1. Advances in Physiology Education
2. Academic Medicine
3. Indian journal of Physiology and Pharmacology
4. Journal of Ayurveda and Integrative Medicine
5. Evidence-based Complementary and Alternative Medicine
6. AYU
7. All journals of American Physiological Society
8. Journal of Physiology

Recent Reseach Papers in Kriya Sharir / Physiology to refer

4. DRAVYAGUNA VIGYAN

Theory : 400 marks

PAPER-INamarupa Vigyana

100 marks

(Ayurveda & modern Pharamcognosy)

Part – A:

50 marks

1. Importance of Namagyana of Dravya, origin of Namarupagyana of Aushadhi in Veda, etymological derivation of various names and synonyms of Aushadhi.
2. Rupagyana in relation to Aushadhi.
3. Basonym and Synonyms of dravyas(Aushadha and Ahara) mentioned in Vedic compendia, Brihatrayee, Bhavaprakasha and Rajanighantu.
4. Distinguishing morphological characteristic features (Swaroopaa)of medicinal plants listed in Ayurvedic Pharmacopoeia of India(API).
5. Knowledge of Anukta dravya (Extra-pharmacopoeial drugs) with regards to Namarupa.
6. Sandigdha dravya (Controversial drugs) vinischaya.

Part – B:

50 marks

1. Pharmacognostical study of different parts of the plant with reference to Macroscopic and Microscopic study and Qualitative and Quantitative analysis like foreign matter, extractive (Water and alcohol), ash value, acid insoluble ash and TLC separation).
2. Methods of drug Standardization and Quality control
3. Knowledge of biodiversity, endangered medicinal species.
4. Knowledge of TKDL, Introduction to relevant portions of following Acts-Drugs and Cosmetic Act, Drugs & Magic Remedies Act, FSSA ,AFA, Wildlife& Biodiversity Acts&Intellectual Property Right (IPR) and Regulations pertaining to Import and Export of Ayurvedic drugs.
5. Knowledge of tissue culture techniques.
6. Knowledge of Genetically Modified Plants.
7. Knowledge of advances in cultivations of medicinal plants.

PAPER –II Guna Karma Vigyan (Ayurvedic & Modern pharmacology)

100 marks

Part – A:

50 marks

1. Fundamental principles of drug action in Ayurveda
2. Detailed study of rasa-guna- virya- vipaka-prabhava and karma with their applied aspects and views of commentators (Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu) 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 and kritanna varga described in Brihatrayee and various nighantus.
6. Knowledge of guna and karma of anukta dravya.

Part – B:

50 marks

7. Fundamental principles of General pharmacology.
8. Modern pharmacological principles and knowledge of drugs acting on various systems.
9. 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 activities, anti microbial and antimycotic activities.
10. Studies on changes occurring in purification of poisonous plants drugs.

PAPER – III Prayogavigyana Marks 100

(Pharmacotherapeutics/Clinical pharmacology)

Part – A:

75 marks

1. Bhaishajya Prayoga 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 Sevanakal,(schedules of drug administration), Sevankal avadhi (duration of drug administration), Pathyapathya (Dos' &Don'ts), Complete Prescription writing (Samagra Vyavastha patraaka).
2. Amayika prayoga (therapeutic uses) of important plants described in Brihatrayee, Chakradutta, Yoga ratnakara and Bhavaprakasha.
3. Samyoga- Viruddha Siddhanta and its importance with examples.

Part – B:

25 marks

- 4 Knowledge of Pharmaco-vigilance in Ayurveda& modern medicine.
- 5 Adverse drug reactions & Drug interaction of medicinal plants.
- 6 Knowledge of clinical pharmacology and clinical drug research as per GCP guidelines.
- 7 Knowledge of Pharmacogenomics.

PAPER- IV Nighantu & Yoga Vigyana 100 marks

(Materia Medica & Formulations)

Part- A:

75 marks

1. Etymology of Nighantu, their relevance, utility and salient features.
2. Details of the following Nighantus with regards to author's 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 of Ekala Aushadha kalpana (manufacturing of dosage forms of single drugs) mentioned in Sharangadhara samhita and Ayurvedic Formulary of India (AFI).

Part- A:

25 marks

- 3 General awareness on Aharayogi(Nutraceuticals), Soundarya prasdana (cosmoceuticals), Food addictives, Excipients etc.
- 4 Knowledge of plant extracts, coloring and flavoring agents and preservatives.
- 5 Knowledge of Pharmacopies of India different contries- e.g. API, BHP,
- 6 Knowledge of important scientific publications of various Departments & ministeries of Govt. of India- Like department of AYUSH, CCRAS,RAV,ICMR, CSIR etc.

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

1. Study tours:

Field identification of medicinal plants through at least five local Dravyaguna study tours. Within the state and one study tour out of state and preparation of minimum 50 **herbarium sheets** along with prajyogya (raw drug). Field visit should also include demonstration of Cultivation practices of important medicinal plants.

2 Evaluation of Crude drugs:

Macro- and micro-scopic methods of examining three drugs of each of different useful parts of plants, including their powders.

3 Phytochemical evaluation of raw material:

Qualitative and Quantitative analysis 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.

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) for any five pharmacological activities cited in paper II.

5 Practical training –

a) 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 pharmacology laboratory for developing skills in animal experimentation

b) Regular clinical training in the Teaching hospital for submission of record of Ekala Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.) & Adverse drug reactions (ADR).

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 pre-requisite for appearing in the final examinations. post Graduate Scholar is expected to present minimum two scientific papers in National /international seminars during the course of study.

7 Post Graduate Scholar is expected to publish / get accepted at least one paper in journal as per PG regulations under the supervision of guide.

Pattern of Practical Examination-

Total = 200 marks

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

Reference Books-

1. Rigvedasya Aushadhi Suktam Sahitam – Sayana Bhashya
2. Relevant portions of classical texts of Charak, Sushrut and Vagbhata
3. All available Nighantus
4. Dhanwantari Nighantu Rajnighantu Sahit
5. Sharngadhar Samhita
6. Yogaratnakar
7. Sharngadhar Samhita
8. Yogaratnakar
9. Dravyaguna Vigyanam Acharya – Yadavji Trikamji
10. Dravyaguna Vigyanam Sharma – Acharya Priyavrat
11. Aushadhiguna Vigyanam –Pt. VishwanathDwivedi
12. Kriyatmak Aushadh Parichaya Vigyan – Pt. Vishwanath Dwivedi
13. Abhinav Buti Darpana –Roopalal Vaishya
14. Aushadhagunadharm Shastra – Pt. Gangadhar Shastri Gune
15. .Bhavprakash Nighantu Dr.K.C.Chunekar

Vedon Main DravyagunaShastra -

Vishvanath Dvivedi

Kriyatmak Aushadhi Parichay VigyanaVishvanath Dvivedi

Kriyatmak Aushadhi Parichay Vigyana Vishvanath Dvivedi

Nighantu Adarsha Purvardha & UttarardhaBapalal Vaidya

Unani Dravyaguna Adarsha

Hakim Daljit Singh

Ayurved ki Aushadhiyan Aur Unka Vargikaran

Vishvanath Dvivedi

Aushadhi Vigyan ShastraVishvanath Dvivedi

Glossary of vegetable drugs in Bruhatrayi

Thakar Balwant Sing & Chunekar

Some contravertial drug in Indian Medicine

Dr.Bapalal Vaidya

16. Books on Dravyaguna by contemporary authors

17. Books on Pharmacognosy,

18. Books on General , Experimental &Clinical Pharmacology.

19. Ayurvedic Pharmacopia of India,& other pharmacopias of the world

20. Indian Pharmacopia

21. All the classical texts related to medicinal plants

22. All the scientific publications on medicinal plants

23. Journals on medicinal plants

24. Different Floras

5. RASA SHASTRA AND BHAISHAJYA KALPANA

Paper I Rasa Shastra

Part A

1. History and Chronological evolution of Rasashastra, Concept of Raseshwara darshan. Fundamental Principles of Rasashastra, Technical terminologies (Paribhasha) used in Rasa shastra.
2. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in aushadhikaran and their contemporary modification such as yantras, mushas, putas, Koshtis, bhrashtis, muffle furnaces and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale, along with their applications.
3. Study of Samskara, Role of Agni (Heat), Jala (Water) and other dravas (Liquids), Kala (Season), Patra (Container) etc. and their significance in Aushadhikarana.
4. Concept of Bhavana, Study of Mardana and its significance and knowledge of ancient and contemporary grinding techniques.
5. Detailed Knowledge of different procedures of Shodhana, Jarana, Murchana and Marana, Concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in relation to Bhasmikanana and therapeutic efficacy of dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures. Amritikaran and Lohitikarana.
6. Detailed knowledge of Satva and Druti, Satva shodhan, mrudukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process.
7. Concept of Pratinidhi (Substitute) dravya and discussion on controversial drugs.

PART – B

1. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to source, occurrence, physico-chemical characterization, graahya-agraahyatva, Parada dosha, Parada gati, Parada shodhan, Study of Ashta sanskara, Ashtadasha sanskara etc., Hingulottha Parada. Concept of Parada jaran, moorcchana, bandhan, pakshaccheda and marana etc. Therapeutic properties and uses of Parada.
2. Detailed ancient & contemporary knowledge with Geochemical / mineralogical / biological identification, source, occurrence, physico-chemical characterization, graahya-agraahyatva, Shodhan, Maranadi vidhi and therapeutic properties and uses of dravyas etc. included in Maharasa, Uparasa, Sadharana rasa, Dhatu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha varga, Lavana varga, Kshara varga, Sikata varga and other miscellaneous drugs used in Rasashastra.
3. Detailed knowledge of manufacturing, pharmacopeial standards, storage, shelf life, therapeutic efficacy, dose, anupana, vikarashanti upaya and development of technology with Standard Operating Procedures of processing, standardization, quality control of following Bhasmas and Pishtis
Bhasma - Abhraka Bhasma, Svarnamakshika Bhasma, Kasis Bhasma, Svarna Bhasma, Rajata Bhasma, Tamra Bhasma, Loha Bhasma, Mandur Bhasma, Naga Bhasma, Vanga Bhasma, Yashad Bhasma, Trivanga Bhasma, Pittala, Kamsya and Varthaloha Bhasma, Shankha Bhasma, Shukti Bhasma, Kapardika Bhasma, Godanti Bhasma, Praval Bhasma, Mrigashringa Bhasma, Mayurpiccha Bhasma, Kukkutand twak Bhasma, Hiraka Bhasma, Manikya Bhasma.

Dravaka - Shankha Dravaka

Pishti - Praval pishti, Manikya Pishti, Mukta pishti, Jahara mohara pishti, Trinakanta mani pishti etc.

4. Detailed knowledge of manufacturing, storage, shelf life, pharmacopeial standards, therapeutic efficacy, dose, anupana and development of technology with Standard Operating Procedures of processing, standardization and quality control of Kharaliya rasa, Parpati, Kupipakva rasa and Pottali rasa.
5. Study of classical texts with respective commentaries and special emphasis on Rasarnava, Rasahridaya tantra, Rasa Ratna Samucchaya, Rasendra Chintamani, Rasendra Chudamani, Rasa Ratnakara, Rasadhyaya, Rasa Kamdhenu, Rasa Chandanshu, Anandkanda, Siddha Bheshaja Manimala, Ayurveda Prakash, Rasatarangini, Bhaishajya Ratnavali, Rasamritam etc. and the books mentioned in the Schedule I of D & C Act – 1940. Relevant portions of Brihatrayi.

Paper II Bhaishajya Kalpana

Part - A

1. History and Chronological evolution of Bhaishajya Kalpana, Concept of Bheshaja and Aushadh, fundamental principles of Bhaishajya Kalpana. Technical terminologies (Paribhasha) used in Bhaishajya Kalpana.
2. Classical and Contemporary concepts of Collection, Storage, Saviryata Avadhi and Preservation methods of different fresh and dry Aushadhi dravyas and their graahya-agraahyatva. Knowledge about Good Collection and Storage Practices (GCP and GSP) as per WHO and NMPB guidelines.
3. Detailed knowledge of routes of drug administration, Aushadha matra, Posology, Anupana, Sahapana, Aushadha Sevana Kala, Sevan Avadhi, Pathya, Apathya.
4. Detailed knowledge of manufacturing, standardization, quality control, pharmacopeial standards, storage, shelf life and development of innovative technology with Standard Operating Procedures of following dosage forms
 - i) Panchavidha Kashaya, Churna, Rasakriya, Ghana, Avaleha, Pramathya, Mantha, Panaka, Sarkara, Kshirapaka, Ushnodaka, Aushadha Siddha Udaka, Arka, Satva, Kshara, Lavana, Masi, Gutika, Vatika, Modaka, Guggulu and Varti etc.
 - ii) Sneha Kalpana: Concept of Accha sneha and Sneha pravicharana and Murchhana. Sneha paka, types of Sneha paka and Sneha siddhi lakshana, Avartana. Sneha kalpa karmukata (Pharmacokinetics and dynamics of sneha kalpa). Role of Sneha in relation to absorption of drug.
 - iii) Kritanna and Bheshaja Siddha Anna Kalpana, Shuka and Shmbi Dhanya Kalpana, Dugdha, Dadhi and Takra Vikar and Mansarasadi Krutanna Kalpana, Aharopayogi varga, concept of medicinal and functional food, dietary supplements and neutraceuticals etc.

- iv) Sandhana kalpana: Madya varga and Shukta varga. Asava yoni. Alcoholic and acidic fermentation. Sandhana kalpa karmukata (Pharmacokinetics and dynamics). Advances in fermentation technology. Knowledge of regulations in relation to alcoholic drug preparations.
- v) Bahya Prayogarthā Kalpana: Lepa, Upanaha, Udvartan, Avachurnana / Avadhulana, Abhyanga, Dhupana, Malahara.
- vi) Mukha, Karna, Nasa, Netropacharartha Kalpana:
- vii) Basti Kalpana: Basti Yantra Nirmana, Types of basti. Anuvasana and Asthapana basti. Karma, Kala and Yoga basti etc. Basti Kalpa (Madhutailika, Piccha basti etc.), Comparison of Asthapana and Anuvasana basti with evacuation and retention enema.

Part B

All the following procedures are to be studied in relevance to Ayurvedic Bhaishajya Kalpas.

1. Methods of Expression and Extraction: Maceration, percolation, distillation, infusion and decoction. Knowledge about Filtration techniques.
2. Drying, open and closed air drying, freeze drying, vacuum drying and other drying methods pharmaceutical excipients.
3. **Liquids:** Clarified liquid, Syrup, Elixir,
4. **Solid dosage Forms: Powders:** Size reduction, Separation techniques, particle size determination, Principles of mixing.
Tablets: Methods of tableting, Suppositories, Pessaries and Capsules, Sustained release dosage forms.
5. **Semisolid dosage forms-** Emulsions, Suspensions, Creams and Ointments, Sterilization of Ophthalmic preparations.
6. An introduction to various cosmetic preparations such as Toiletries, Shampoo, Shaving creams, Hair oils, Face Powders (Talcum powders). Vanishing creams, lotions and Moisturisers, Face pack, Deodorants and Perfumes
7. Study of classical texts with special emphasis on Chakradatta, Sharangadhara Samhita, Bhaishajya Ratnavali, Bhava Prakasha, Yogaratnakara, relevant portions of Brihatrayi, Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India.

Paper III Rasa Chikitsa & Aushadha Yoga Vigyana

PART- A

1. Rasachikitsa, Kshetrikaran, Rasajirna, Lohajirna, Ashuddha, Apakva, Avidhi Rasadravya Sevanajanya Vikara evam Vikara shanti upaya (Management and knowledge of untoward effects of inappropriately processed and administered drugs).
2. Detailed knowledge of Aushadhi patha Nischiti and Sanyojan (Formulation design and composition), Dose, Anupana and Method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi yogas
 - i. **Kharaliya Rasa :** Shwasa kuthara Rasa, Tribhuvana kirti Rasa, Higuleshwara Rasa, Ananda bhairava Rasa, Maha Lakshmvilasa Rasa, Vasnata kusumakara

Rasa, Vasanta multi Rasa, Brihat vata chintamani Rasa, Laghu suta shekhar Rasa, Suta shekhara Rasa, Ram ban Rasa, Chandra kala Rasa, Yogendra Rasa, Hridayarna rasa, Grahani kapata Rasa, Garbha pala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arsha kuthara Rasa, Krimi mudgara Rasa, Suchika bharaana Rasa, Tri netra Rasa, Smruti sagara Rasa, Vata gajankusha Rasa, Agni kumar Rasa, Ekangavir Rasa, Kama dugha Rasa, Purna chandrodaya Rasa, Pratap lankeshwara Rasa, Maha vata vidhwansaka Rasa, Kasturi bhairava Rasa, Ashwa kanchuki Rasa, Gulma kuthara Rasa, Maha jwarankusha Rasa, Chandra mrita Rasa, Kapha ketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbha chintamani Rasa, Chintamani Rasa, Trilokya chintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihat vangeshwara Rasa, Shwasakasa Chintamani Rasa, Arogya vardhini Vati, Chandra prabha Vati, Agni tundi vati, Shankha Vati.

- ii. Kupipakva Rasa:** Rasa Sindura, Makaradhwaja, Sidha makaradhwaja, Samira pannaga Swarnarajvangeshvar, Malla sindura, Rasa karpura, Rasa pushpa, Manikya Rasa.
- iii. Parpati Rasa :** Rasa Parpati, Loha Parpati, Tamra Parpati, Suwarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati
- iv. Pottali Rasa:** Rasagarbha pottali, Hemagarbha pottali, Mallagarbha pottali, Hiranyagarbha pottali, Shankagarbha pottali, Lokanatha rasa, Mriganka Pottali
- v. Loha evam Mandura Kalpa:** Ayaskriti, Loha Rasayana, Amla pittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, Putapakva vishama jwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Pradarantaka loha, Rohitaka loha. Punarnava Mandura, Shatavari Mandura, Triphala Mandura, Mandura Vataka etc.
- vi.** Knowledge of Essential Ayurvedic drug list as prescribed by Dep. Of AYUSH (Got. Of India) and its significance.

Part B

Detailed knowledge of Aushadhi patha Nischiti and sanyojan (Formulation designing and composition), dose, anupana and method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi yogas

- i. Panchavidha Kashayas and their Upakalpa:** Ardraka swarasa, Tulasi swarasa, Vasa putapaka, Nimba kalka, Rasona kalka, Kulattha Kwath, Punarnavasthaka kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Tandulodaka, Mustadi pramathya, Kharjuradi mantha, Shadanga paniya, Laksha rasa, Arjuna kshirapaka, Rasona kshirapaka, Chinchana panaka, Candana panaka, Banapsha sharkara, Nimbu sharkara, Amrita satva, Ardraka satva, Ajamoda arka, Yavanyadi arka
- ii. Kritanna and Bhesaja Siddha Ahara Kalpana:** Yavagu, (Krita and Akrita), Ashtaguna manda, Laja manda, Peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushtika yusha, Khada, Kambalika, Raga, Shadava, Mamsarasa, Veshavara, Dugdha Vikara – Piyush, Kilata, Kshirashka, Hyaiyangavina, Morata, Santanika, Dadhi and Dadhi Vikara, Katvar Dadhi, Dadhi Mastu, Takra, Gholi, Udasvita, Mathita, Chhacchika etc.
- iii. Churna:** Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Avipattikara Churna, Swadishta Virechana Churna, Bhaskar Lavana Churna,

Sudarshana Churna, Maha Sudarshana Churna, Gandharva Haritaki Churna, Pushyanuga Churna, Ajamodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna, Gangadhara Churna, Jati phaladi Churna, Narayana Churna etc.

iv. Gutika: Arogya vardhani vati, Chandra prabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasunadi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi Vati, Kankayana Vati, Abhayadi modaka, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati, Shiva Gutika, Eladi Vati, Kasturyadi Gutika, Arshoghni Vati.

v. Guggulu: Yogaraja Guggulu, Maha yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu, Navaka Guggulu, Nava Karshika Guggulu.

vi. Sneha Kalpa

Sneha Moorchhana - Ghrita Murchana, Taila Murchhana

Siddha Ghrita - Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshirashatpala Ghrita, Mahatriphala Ghrita, Dhanvantari Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita, Panchagavya Ghrita

Siddha Taila - Maha Narayana Taila, Maha Masha Taila, Bala Taila, Nirgundi Taila, Shadbindu Taila, Vishagarbha Taila, Sahacharadi Taila, Jatyadi Taila, Apamarga Kshara Taila, Tuvarka Taila, Kshirabala Taila (Avartita), Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasarinyadi Taila, Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhringyadi Taila, BrihadSaindhavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna taila, Arka taila, Pinda Taila, Kasisadya Taila

vii. Rasakriya, Avaleha, Khanda etc.: Darvi Rasakriya, Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Dadima Avaleha, Bilvadi Avaleha, Kantakaryavaleha, Haridra Khanda, Narikela khanda, Saubhagya shunthi paka, Amrita Bhallataka, Kamsa Haritaki, Chitraka Haritaki, Vyaghri Haritaki, Bahushala Guda, Kalyana Guda

viii. Sandhana Kalpa: Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Sarivadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishta, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta, Drakshasava, Mahadrakshasava, Mritasanjivani sura, Maireya, Varuni, Sidhu, Kanji, Dhanyamla, Madhu Shukta, Pindasava.

ix. Anya Kalpa : Phala varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sindhuradi Malahara, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Sikhtha taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila patana, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Piccha Basti, Yapana Basti.

PAPER – IV Pharmacology and Pharmacy Management

PART - A

- 1.** General Pharmacology:
 - a. Principles of Pharmacology, Pharmacodynamics & Pharmacokinetics: Absorption, distribution, Metabolism & excretion, mechanism of action, dose determination and dose response, structure activity relationship.
 - b. Routes of drug administration
 - c. Factors modifying drug effect, Bioavailability and Bioequivalence, drug interactions, Adverse drug reaction and Drug toxicity
 - d. Preclinical evaluation: Experimental pharmacology [Bioassay, In vitro, In vivo, Cell line studies], Animal ethics.
- 2.** Clinical pharmacology: Evaluation of New Chemical Entity – Phases and methods of Clinical research. Ethics involved in human research.
- 3.** Elemental constituents of human body such as Iron, Copper, Zinc, Calcium, Manganese etc. and its physiological importance. Deficiencies and excess of various elements.
- 4.** Toxicity of heavy metals and chelation therapy.
- 5.** Knowledge of toxicity and pharmacological activities of herbo-mineral compounds.
- 6.** Detailed Knowledge of Pharmacovigilance – National and International Scenario. Pharmacovigilance of Ayurvedic Drugs

Part B

- 1.** Scope and evolution of pharmacy. Information resources in pharmacy and pharmaceutical Science.
- 2.** Pharmaceutical formulation designing and dosage form design (Pre-formulation).
- 3.** Packaging materials and Labeling.
- 4.** Management of pharmacy, Store and inventory management, Personnel management, Good Manufacturing Practices related to Ayurvedic drug industry.
- 5.** Pharmaceutical Marketing, Product release and withdrawals.
- 6.** Hospital, Dispensing and Community pharmacy.
- 7.** Patenting and Intellectual Property Rights.
- 8.** Laws Governing Ayurvedic drugs
 - i. Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetics Act - 1940 and Rules - 1945
 - ii. Laws pertaining to Drugs and Magic remedies (Objectionable Advertisement) Act - 1954.
 - iii. Prevention of Food Adulteration (PFA) act.
 - iv. Food Standards and Safety Act - 2006
 - v. Laws pertaining to Narcotics
 - vi. Factory and Pharmacy Acts
 - vii. Consumer Protection Act -1986
 - viii. Knowledge of Good Clinical Practices and Inspection Manual prescribed by Dept. of AUYUSH, Govt. of India.
- 9.** Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs.
- 10.** Introduction to Ayurvedic Pharmacopoeia of India, Ayurvedic Formulary of India.

11. Introduction to Indian Pharmacopoeia, British and United States Pharmacopoeia, Pharmacopoeial Codex.

12. Introduction to Traditional Knowledge Digital Library

Practicals:-

Minimum 150 Practicals are to be performed covering all the dosage forms.

Educational Visits to minimum Five (5) GMP approved Ayurvedic Pharmacies.

posting in R & D / Production unit in GMP certified Ayurvedic Pharmacy.

Minimum attendance in three National Conferences within three academic years.

Minimum 10 clinical cases using different dosage forms are to be studied and recorded for efficacy and ADRs (if any).

Minimum one research paper on the core contributory work of dissertation published or accepted in peer reviewed, indexed journal.

Examinee has to submit supporting documents in relation to above mentioned academic activities at the time of Practical examination.

Pattern of Practical Examination
100

Total Marks :

Duration of the practical: 2 days

1.	Identification of the specimen:	10 Marks
2.	Drug Processing	30 Marks
		(10+10+5+5)

i) Major Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana)

ii) Minor Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana)

3. Drug testing and Analysis 10 Marks (5+5)

i) Rasaushadhi - 1

ii) Kashthaushadhi - 1

4. Power Point Presentation on dissertation work: 15 Minutes

10 Marks

6. A Demo Lecture on any subject topic: 10 Minutes.

10 Marks

7. Documentation

15 Marks

a. Journals (Practical Records) of minimum 150 practicals from Rasa Shastra, Bhaishajya Kalpana and Drug Analysis.

b. Reports of the Visits.

8. Viva Voce examination

15

Marks

Reference Books:-

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasapraksha Sudhakar
9. Rasamrita
10. Rasa Chandanshu : CCRAS Publication
11. Sharangadhara Samhita
12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
18. Bharat Bhaishajya Ratnakara
19. Rasayoga Sagara
20. Siddha Bhaishajya Manimala
21. Siddha Yoga Sangraha – Yadavaji Trikamji Acharya
22. Sahasrayoga
23. Vaidyaka Paribhasha Pradeepa
24. Dravyaguna Vijnan Part - 1 and 2 - Yadavji Trikamji
25. Chakradatta - Ratnaprabha,
26. Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashtanga Sangraha, Ashtanga Hridaya,
27. Remington: Science and Practice of Pharmacy
28. Theory and Practice of Industrial Pharmacy – Leon Lachman *et al*
29. Clinical Pharmacology, KD Tripathi
30. Clinical Pharmacology, Lawrence Benette
31. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
32. Pharmacological Basis of therapeutics – Goodman and Gilman
33. Data Base of Medicinal Plants of CCRAS
34. Quality and Standards of Medicinal Plants – ICMR publication
35. Quality Control of Ayurvedic Drugs – PLIM, Gaziabad
36. Ayurvedic Pharmacopeia of India
37. Ayurvedic Formulary of India
38. Indian Pharmacopeia
39. British Pharmacopeia
40. United States Pharmacopeia
41. Pharmacopeia Codex
42. Current Good Manufacturing Practices
43. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
44. Drugs and Magic remedies (Objectionable advertisement) Act-1954
45. Prevention of Food Adulteration (PFA) act
46. Laws pertaining to Narcotics
47. Factory and Pharmacy Acts
48. Consumer Protection Act -1986
49. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (related with the subject)

50. Rutleys Elements of Mineralogy
51. Bhasma Vigyaniam
52. Kupipakva Vigyaniam
53. Anupana Manjari

6. AGADA TANTRA EVUM VIDHIVAIDYAKA

PAPER-I Agada Tantra (Ayurvedic and Contemporary Toxicology)
marks

100

Part - A

1. Agada Tantra, its sequential development during Veda kala, Samhitha kala, Samgraha kala and Adhunika kala.
2. Definition of Visha, properties of visha and its comparison with madya and oja, visha samprapti, visha prabhava, visha-vega, vegantara and visha karmukata (toxicodynamic and toxicokinetic study).
3. Descriptive and comparative study of Upavisha in unison with Contemporary Toxicology.
4. Examination of poisons as per Contemporary and Ayurvedic Methods.
5. Detailed study of the following:

Visha and Upavisha - Arka, Snuhi, Langali, Karaveera, Gunja, Ahiphena, Dhatura, Bhallataka, Vatsanabha, Kupeelu, Jayapala, Bang, Tobacco, Parthenium historiferous, Chitraka Eranda, Digitalis, Cerebra Odollum etc.

Acids and Alkalis –Sulphuric acid, Hydrochloric acid, Nitric acid, Hydrocyanic acid, Oxalic acid, Carbolic acid, Formic acid and alkalis etc.

Asphyxiants – Carbon monoxide, Carbon dioxide, Hydrogen sulphide etc.

Antihistamines, Cocaine Hallucinogens – LSD Sedatives and Hypnotics – Barbiturates Petroleum – Kerosene Poisoning Organo phosphorus compounds - Aluminium phosphate, Zinc phosphide etc.

- i) Nonmetallic poisons – Phosphorous, iodine etc.
 - ii) Metallic poisoning – Arsenic, Mercury, Lead, Copper, Zinc, Tin, Radiation metals etc.
6. Study of Jangama visha and their sources (Animal poisoning and Zoonotic Diseases). Descriptive study of snakes according to ancient and contemporary knowledge. Causes of snake bite and its types. Composition of snake venom and its pharmacological actions. Signs and symptoms of envenomation and its prognostic signs. Clinical features of Vrischika (scorpion), Luta (spider), Grihagadhika (Lizard), Mushaka (rats), Alarka (dogs), Makshika and Mashaka (mosquitoes) and their pathologic manifestations including their role in the manifestation of communicable diseases.
- Shankaa visha and its management. Visha sankat

Part-B

- 7. Garavisha and Dushi visha, their varieties, signs, symptoms and management with contemporary relevance. Detailed study of Allergies including allergic manifestations in the eyes, nose, lungs and skin.
- 8. Detailed study of Madya visha and substances acting on the nervous system; substance abuse.(Diagnosis, Management and De-addiction)
- 9. Detailed study of the contemporary knowledge about vishajanya Janpadodhvansaniya roga (community health problems due to poisons - Environmental pollution, water pollution, soil pollution, air pollution, Industrial pollutions etc. their features and management according to ancient and recent concepts.
- 10. Concept of Virudha aahara, Aahara visha and Satmyasatmyata in contemporary and Ayurvedic views.
- 11. Conceptual study:- Drug interactions and incompatibility, Pharmacovigilance

PAPER- II Visha Chikitsa Vigyan (Management Of Poisoning)
marks

100

Part -A

- 1. Fundamental Principles for treatment of poisoning
- 2. General and specific treatment of different types of Sthavara visha.
- 3. General and specific treatment of different types of Jangama visha (animal poisons,

insect poisons, snake bites and other zoonotic diseases).

4. Emergency medical management of poisoning including preparation, administration and complications of antivenoms/antiserum.
5. Chaturvimsati upakrama (24 management procedures).
6. Management of Garavisha and Dushivisha. Treatment of Allergies including allergic manifestations in the eyes, nose, lungs and skin

Part- B

7. Diagnosis and Management of Drug Induced Toxicity
8. Management of the toxic manifestations caused by the contact poisons (paduka, vashtra, abharana, mukhalepa- vishabadha etc).
9. Management of food poisoning.
10. Death due to poisoning, Duty of physician in poisoning, in cases of suspected poisoning. Post mortem findings in poisoning.
11. Extra -corporeal techniques (dialysis etc) for removal of poisons.

**PAPER –III Vyavahara Ayurveda Evam Vidhi Vaidyaka
marks**

100

Part - A

1. Definition of Vyavahara Ayurveda, its evolution in ancient and contemporary periods.
2. Personal identity and its medico-legal aspects.
3. Death and its medico-legal aspects (Medical Thanatology).
4. Asphyxial deaths and its medico-legal importance.
5. Death due to starvation, heat and cold, lightning and electricity.
Suspended Animation.
6. Medico-legal autopsy.
7. Injuries due to explosions, chemical and nuclear warfare.
8. Medico-legal aspects of injuries and wounds.
9. Impotence and sterility-Its medico-legal aspects. Regulations of Artificial

Insemination. Medico –legal aspects of surrogate motherhood.

10. Sexual offences and perversions.
11. Medico-legal aspects of virginity, pregnancy, delivery, abortion, infanticide and legitimacy with related acts.

Part –B

12. Indian Penal Code, Criminal procedure code and study of related acts like Indian Evidence Act, Pre Natal Diagnostic Test Act, Nursing Home Act, Human Organ Transplantation Act, Drugs and Cosmetic Act 1940, Narcotic drugs and Psychotropic substances Act 1985, Pharmacy Act 1948, Drugs and Magical Remedies (Objectionable Advertisements) Act 1954, Medicinal and Toilet Preparations Act 1955 and Anatomy Act etc. Any related act enacted by the government from time to time.
13. Courts and Legal procedures.
14. Forensic Science Laboratory.
15. Medico legal aspects of mental illness.
16. Duties and privileges of physician.
17. Structure of Central Council of Indian Medicine, its jurisdiction and functions. Code and Conducts as per the CCIM, Rules and Regulations there under.
18. Respective State Council of Indian Medicine, its structure, power, voluntary duties.
19. Doctor - patient relationship.
20. Rights and privileges of patients; Euthanasia.
21. Professional secrecy and privileged communication.
22. Professional negligence and malpractice.
23. Indemnity Insurance scheme.
24. Consumer Protection Act related to medical practice.
25. Ethics as in classics. Types of physicians and methods of identification, Pranabhisara and Rogabhisara Physicians, qualities of physician, responsibilities of Physicians, Chaturvidha vaidya vriti, duties of physicians towards patients, Vaidya sadvritam, Apujya Vaidya who is accepting fees, relationship with females.

Part-A

1. Pharmaco-dynamics of different formulations used in Agadatantra.
2. Study of pharmacology and usage of antidotes as per the Ayurvedic and contemporary science.
3. Fundamentals of pharmaceuticals according to Ayurvedic and contemporary point of view.
4. Chemical, analytical, laboratory examination of poisons and suspicious substance.

Part-B

5. Introduction of different instruments /equipments used in the examination of poisons.
6. Introduction to Clinical toxicology
7. Introduction to Experimental toxicology
8. Introduction to Toxicology - genomics
9. Survey and study of the traditional and folklore vishachikista sampradaya.

Content of Practical/Demonstration

1. Identification of specimens models and equipments of toxicological and jurisprudence importance.
2. Practical training in postmortem examination (10 cases)
3. Medico-legal cases (20 cases)
4. Chemical Identification of various acids, alkalies, alcohols – Hydrochloric acid, Nitric acid, Sulphuric acid, Ascorbic acid, Sodium Hydroxide and Potassium Hydroxide
5. Detection of minerals Copper, Mercury, Lead, Arsenic and their compounds.
6. Physical and Chemical analysis of Datura, Karaveera, Vatsanabha, Jayapala, Arka and Bhallataka with Microscopy, powder microscopy, TLC, solvent extraction, detection of Phenol, tannins etc. (10 studies)
7. Detection of human blood, hair, semen and other biological secretions of Forensic importance
8. As per MSR, at least one paper to be published/accepted in a peer reviewed journal.

Clinical Postings

a.Regular clinical postings in the Agadatantra OPD / IPD

b.Modern medical hospitals – 2 weeks

(For emergency management of poisoning)

9. Other Postings

- | | |
|-----------------------|-----------|
| a.Postmortem postings | - 2 weeks |
| b.Court postings | - 1 week |

Visit to

1. Forensic Laboratory
2. Anti snake venom serum manufacturing Unit(Optional).

Pattern of practical examination

- | | |
|---|------------------|
| 1. Post mortem / Medico-legal case record and clinical record | - 10 Marks |
| 2. Clinical case presentation. | - 30 Marks |
| 3. Spotting related to Visha, Upavisha and others poisonous drugs | - 10 Marks |
| 4. Thesis presentation | - 25 Marks |
| 5. Viva-voce | - 25 Marks |
| Total | 100 Marks |

Reference Books:-

- | | |
|--|----------------------------------|
| 1. Useful Portion of Charak-Sushrut-Vagbhata | |
| 2. Dravyaguna Vigyan | - Acharya Yadavji |
| 3. Aushadhigunadharm Shastra | - Pt Visvanath Dvivedi |
| 4. Kriyatmat Aushada parichaya Vigyan | - Pt Visvanath Dvivedi |
| 5. Ayurvedic Vyadhi Vigyan
Trikamji | - Acharya Yadavji |
| 6. Madhavanidan with Madhukosha commentary | |
| 7. Sharangadhara Samhita | |
| 8. Yogaratnakara | |
| 9. Aushadigunadharm Shastra
Gune | -Pt Gangadhara Shastri |
| 10. Rasendracintamani | |
| 11. Rasaratna samuchhaya | |
| 12. Vishavigyan | - Dr. Krishna Kumar |
| 13. Related matter of Kautilya Artha Shastra | |
| 14. Harmekhlatantra | |
| 15. Anupana manjari | |
| 16. Ayurvedprakash | |
| 17. System of clinical Medicine | - Savil |
| 18. Forensic Pharmacy | - B.M. Mhithai |
| 19. Hand book of Forensic Medicine and toxicology | - Dr. P.V. Chadha |
| 20. Viva Forensic Medicine and toxicology | - L.C. Gupta |
| 21. Forensic Medicine and Ethics | - J.P. Narena |
| 22. Modi's Medical Jurispudence and Toxicology | |
| 23. The essentials of forensic medicine and toxicology | - Dr.K.S. Narayan Reddy |
| 24. Medical Laws and Ethics | - Dr. H.S. Mehta |
| 25. M.R.K. Krishnan's Handbook of Forensic Medicine | |
| 26. Text book of Medical Jurispudence and Toxicology | - Dr. C.K. Parikh |
| 27. Atlas of Forensic Medicine | - Dr. Tomio Watenbe |
| 28. Medico legal Post Mortems (Atlas) | - Dr. Parikh and Others |
| 29. Textbook of Forensic Medicine and Toxicology | - Dr.V.V. Pillay |
| 30. Textbook of Forensic Medicine and Toxicology | - Dr. Karmakar |
| 31. Textbook of Forensic Medicine and Toxicology | - Dr. Singhal |
| 32. Textbook of Forensic Medicine and Toxicology | - Dr. Krishnan Vij |
| 33. Forensic Pathology | - Dr. Bernard Knight |
| 34. Textbook of Forensic Medicine and Toxicology | - Lyon's |
| 35. Pocket picture guide to Forensic Medicine | - Gower's Medical
Publication |
| 36. Forensic Medicine | - Simpson Knight |
| 37. Taylor's Principles and Practical of Medical Jurispudence - J and A Churchis | |

38. Doctor and law - Singhal
39. Forensic Medicine Under Indian System of Medicine (Ayurveda)- U.N.Prasad
40. Medicine Harrison's Principal of Internal Medicine
41. Agad Tantra - Dr. Shekhar Namboodri
42. Modern Medical Toxicology - Dr. V.V.Pillay
43. Critical care toxicology - Bruent Wallace
44. Diagnosis and Management of common poisoning - Agarwal wali
45. Colour Atlas of Forensic Medicine - Govindaiah
46. Guidelines of poisons - W.H.O.
47. Doctors patients relationships - Dr.Lavekar
48. Bhavaprakasha.
49. Vishavaidya Jyotsnika -- English translation By VPSV Ayurveda college, Kottakkal.
50. Lakshnamritham.
51. Toxicology, Ayurvedic perspective - VPSV Ayurveda college, Kottakkal
52. Text book of Agadatantra - Edited By Dr Huparikar, Dr. Joglekar
53. Agadatantra ki Pathyapustaka - Edited By Dr Huparikar, Dr. Joglekar
54. Vyavahar Ayurveda Vigyanam - Dr.Indramohan Jha (Sachchan)
55. Forensic Medicine - Dr. B. Umadathan
56. Visha Chikitsa - Dr. M. Balakrishnan Nair
57. Park Text book of Preventive and Social Medicine. - K. Park
58. Environmental Science and Biotechnology - Theory and Practice - A.G. Murukesan &C.
- Rajakumari
59. Veterinary Toxicology - Dr. Satish K. Gargi
60. Guide to Drinking Water Quality (3 Volumes) - WHO Publication
61. A short Text Book of Medical Entomology - H.S. Bhatti, R. Sehgal, R.C. Mahajan.

SUBJECT: SWASTHAVRITTA AND YOGA

**Total Theory Marks: 400
marks**

Each paper of 100

PAPER I VAIYAKTIKA SWASTHAVRITTAM SADVRITTAM CHA

Marks

100

(PERSONAL HYGIENE AND MORAL CONDUCT)

PART A

50 Marks

1. Concept of holistic health according to Ayurveda. Parameters of Health.
2. Spectrum of health, Iceberg phenomenon of diseases, dimensions of health.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Probable Physiologic effect of Dinacharya procedures-Ayurved and Modern view.
5. Ratricharya – Bhavamishra and other classics.
6. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, BhelaSamhita and Bhavamishra.
7. Ritus prevalent in various Indian states.
8. Ritu, Day and night pattern in various countries.
9. Shodhana Schedule for Ritusandhis.
10. Concept of Vegas, types and the importance of vegadharana in swasthyarakshan.
11. Sadvritta – As per Charaka, Sushruta and Vagbhata.
12. Prajnaparadha – Causes, Effects and solution.
13. AcharaRasayana, Nityarasayana.
14. Rasayana procedures for Swastha
15. Vajeekarana for Swastha.
16. Mental Health and the role of Ayurveda in it.
17. Principles of Health Education.
18. Genetics in Ayurveda and Modern Science

PART B

50 Marks

19. Principles of Trayopasthambha.
20. Details of Ahara, Nidra , Brahmacharya
21. Ahara – Classical food items in Charaka, Sushruta, Vagbhata and Sharangadhara.
22. Aharavargas and comparison with today's food items.
23. Staple diet of various States of India.
24. Staple diet of various countries in correlation with their climate.
25. Principles of Ayurvedic Dietetics and Modern view of nutrition. Balanced diet for healthy adult, adolescent, elderly people, pregnant ladies and lactating mothers.

26. Food intervention in malnutrition, under nutrition, over nutrition and Life style related diseases viz. Sthoulya, Hridroga, Madhumeha, SandhigataVataVikara.
27. Rules of food intake according to Charaka, Sushruta and Vagbhata.
28. Pros and Cons of vegetarian and non vegetarian foods.
29. Viruddhahara – Classical and modern day examples.

PAPER II SAMAJIKA SWASTHAVRITAM (COMMUNITY HEALTH)

Marks

100

PART A

50 Marks

1. Concept of community health.
2. Concept of Prevention according to Ayurveda.
3. Concept of prevention according to Modern medicine. Levels of prevention. Stages of intervention.
4. Web of causation of diseases, Multifactorial causation.
5. Natural History of diseases.
6. Medical Entomology– Arthropods of Medical Importance and their control measures.
7. Primary knowledge of parasites in relation to communicable diseases.
8. Old age problems in community. Role of Ayurveda in Geriatrics.
9. Care of the disabled. Palliative Health Care
10. Life Style disorders (Non Communicable diseases) in community and the role of Ayurveda in them.
11. Disinfection practices for the community – Modern and Ayurvedic.
12. Immunization programmes. Possible contribution of Ayurveda

PART B

50 Marks

13. Ecology and community health.
14. Environment and community health (Bhumi, Jala, VayuShuddhikarana, Prakasha, Shabda). Natural & Man made Radiations.
15. Effect of Pollution and Global Warming on Health
16. Housing –W.H.O Standards. Design of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
17. Methods of Disposal of Wastes- Refuse&Sewage. Methods of Sewage disposal in sewerred and unsewerred areas.
18. Occupational Health. Ergonomics. Role of Ayurveda in Occupational health.
19. School Health Services and possible contribution of Ayurveda.
20. Demography and Family Planning. National Population Policy.
21. Family Welfare,RCH Programmeand the role of Ayurveda in it.
22. Health tourism. Ayurvedic Resort and Wellness Management- Panchakarma and allied procedures.
23. Medical Sociology.

PAPER III SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYAPRASHASANAM

(EPIDEMIOLOGY AND HEALTH ADMINISTRATION)

Marks 100

PART A

50 Marks

1. Modern Concept of Epidemiology.
2. Disease Surveillance.
3. Critical evaluation of Janapadodhwamsa.
4. Epidemiology of different Communicable diseases in detail.
5. General investigations for Communicable diseases
6. Investigation and control of Epidemics
7. Sexually Transmitted Diseases and their control
8. Ayurvedic view of SamkramakaRogas.
9. Epidemiological studies in relation to Diet and Life Style.
10. Host Defenses.
11. Vyadhikshamatva – Modern and Ayurvedic concepts.

PART B

50 Marks

12. Health advice to travellers.
13. Isolation ward in Hospital.
14. Bio medical waste management
15. National Health Programmes. Contribution of Ayurveda in National Health Programmes.
16. AYUSH, NRHM, administration, functions and programmes. Role of Ayurved in Rural and Urban Health Mission
17. Central, State and District Health administration including Panchayat Raj system.
18. National Health Policy and Role of Ayurved in it.
19. National and International Health Agencies and their current activities.
20. Disaster management and Preparedness
21. Statistics related with Infectious diseases at International, National and State levels
22. Vital Statistics

PAPER IV YOGA Marks 100

PART A

50 Marks

1. History and evolution of Yoga
2. Different Schools of Yoga
3. Concept of Rajayoga
4. Ashtanga yoga philosophy of Patanjali including the Yogasutras.
5. Hathayoga - according to Hathayogapradeepika, Gheranda Samhita and Shivsanhita.

6. Karmayoga – Philosophy according to Bhagavad Gita
7. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
8. Physiological effect of Yoga on Body and mind – Ancient and modern concepts.

PART B

50 Marks

9. Concept of Sthula, Sukshma and Karana Shariras
10. Concept of Panchakoshas
11. Concept of Shad chakras and Kundalini
12. Shad Kriyas- Classification, procedure and their effects.
13. Interventions of yogic practices in the following diseases - Diabetes, Hypertension, Cardiovascular disorders, Obesity, Piles, Irritable Bowel Syndrome, Skin diseases viz. Eczema, Psoriasis, Stress Disorders, Eye disorders, Musculoskeletal disorders, Mental retardation, Depression, Neurosis, Sexual Dysfunction, Uterine Disorders, Cancer, Asthma and Upper respiratory diseases.
14. Yoga in Ayurveda – Concept of moksha, Tools for Moksha, Naishtikichikitsa, TatvaSmriti, Satyabudhhi, YoginamBalamAishwaram (CharakaSamhitaSharirasthan chapter 1 & 5)
15. Introduction to Nisargopachara, Basic Principles of Western School of Nature Cure and Indian School of Nature Cure – PanchabhutaUpasana and its therapeutic utility.
16. Different types of Massage and their therapeutic effects

Scheme of Practicals- Duration 2 years Total no. of practical Hours: 200

Practical exam marks: 200

1. Healthpromotive and protective practices of Dinacharya procedures viz. Dantadhavana, Anjana, Nasya, Kavala, Gandusha, Dhumapana, Abhyanga, and Udvartana

2) Practical Demonstration of Yoga

a) Aasanas (26)

- 1) Swastikasan
- 2) Gomukhasan,
- 3) Ushtrasan,
- 4) Kukuttasan,
- 5) Uttankurmasan,
- 6) Dhanurasan,
- 7) Matsyendrasan,
- 8) Mayurasan,
- 9) Bhadrasan,
- 10) Sinhasan,
- 11) Sarvangasan,
- 12) Shirshasan,
- 13) Pavanmuktasan,
- 14) Bhujangasan,
- 15) SuptaVajrasan,
- 16) Katichakrasan,

- 17) Siddhasana,
- 18) Padmasana,
- 19) Trikonasana,
- 20) Paschimatasana,
- 21) Vajrasana,
- 22) Shavasana,
- 23) Makarasana,

- 24) Uttanpadasana

- 25) Setubandhasana

- 26) Tadasana

& Suryanamaskara

Knowledge of different props for yogasanas (if possible)

b) Pranayama

- 1) Nadishudhi- Anulom, VilomPranayam,
- 2) Suryabhedini,
- 3) Ujjayi,

- 4) Sheetali,

- 5) Sitkari
- 6) Bhasrika,
- 7) Bhramari,

c) Mudra

- 1) Viparitarani
- 2) Yoga Mudra
- 3) Maha Mudra

- 4) Brahma Mudra

- 5) Ashwini mudra

d) Bandha

- 1) Jalandhara, uddiyana, mulabandha

e) Meditational Practices

f) Shuddhikriya – JalaNeti, Sutra Neti, JalaDhauti, Kapalbhata, Tratak Basti, Nauli, vastradhauti (if possible), shankhprakhshalana (if possible)

3) Practical Demonstration of Naturopathy procedures

- a. Mruttika Patti
- b. Pada and Hasta Snana
- c. Bashpasnana (Steam bath)
- d. Awagahana (Immersion bath)
- e. Prishtasnana (Spinal bath)
- f. Katisnana (Hip bath)
- g. Alternate hot and cold bath
- h. Observe Jacuzzi and whirlpool bath at available places.

4) Long case sheets for Pathya, Apathya, Aushadhi (if needed), and Yoga advice to

- a) Non communicable diseases 20
(Proforma attached as Annexure 'A/ 'E')
- b) Communicable diseases 10
(Proforma attached as Annexure 'B')
- c) Garbhini Paricharya 05
(Proforma attached as Annexure 'C')
- d) Mal Nutrition treatment cases 05
(Proforma attached as Annexure 'D')
- e) Case studies of Immunization cases 10
(Proforma attached as Annexure 'F')

iv) Departmental Practicals

- 1) Dantadhawana - 2
- 2) Anjana - 2
- 3) Nasya - 2
- 4) Gandusha- 2
- 5) Kavala- 2
- 6) Dhoompana – Dhumavarti Nirmana - 2

5) Educational Visits-

The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by the Supervisor and HOD)

- 1) Water Purification Centre,
- 2) Milk Dairy,
- 3) Industry,
- 4) Leprosy Centre,
- 5) T.B. Centre,
- 6) Yoga Centre,
- 7) Naturopathy Centre,
- 8) Primary Health Center
- 9) Disposal of Waste Unit,
- 10) Sewage Disposal Unit ,
- 11) Hospital Disinfection- Fumigation,
- 12) Govt. Psychiatric Hospital,
- 13) Isolation Hospital,
- 14) Anti Retroviral Treatment Centre,
- 15) District /Civil Hospital

7) Field Work

- a) Active Participation in Various National Health Programmes
- b) Community Health Survey
- c) School Health Check-up (minimum 100 students)

8. Departmental duties : Regular Attendance as-

Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar.

1. Museum Development
2. Yoga training for self, Swastha and patients.
3. Departmental Seminars
4. Research Journal /Article Reviews
5. Submit minimum 1 paper in journal/magazine as per MSR.
6. Practical knowledge of AharaDravya&Adulteration of Food
7. Proper planning, beginning, completion of Dissertation work under the supervisor
8. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
9. Weekly minimum 5 hours Library attendance
- 10.** Daily diary- Log book

Format of Practical / Oral Examination

Sr.No.	Heading of Practicals	Marks
1	Daily work book-Log book	10
2	Case Record Sheets	20
3	One Long Case (Pathya-Apathya advice)	20
4	Two Short Cases(10X2) (Yoga and naturopathy advice each)	20
5	Spots on Instrument/Equipment/ Medicine/Solve a Problem-	

(10 Spots x2)20

6 Dissertation Presentation 50

7 Viva Voce 60

Total 200

Reference Books:-

- 1) Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratnakara, Bhela Samhita with the respective commentaries
- 2) SwasthavrittaSamuchaya –VaidyaPt.RajesvarDuttaShastri
- 3) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
- 4) Swasthavritta - Dr.Shivkumar Gaud
- 5) SwasthvrittaVigyan - Dr.Ramharsha Singh.
- 6) Swasthvrittam - Dr.BramhanandTripathi
- 7) SwasthaVigyan - Dr.MukundswaroopVerma
- 8) AyurvediyaHitopdesha - Vd.RanjitRai Desai
- 9) AyurvediyaSwasthvrittam - Vd.Jalukar
- 10)Swasthavritta - Vd.Sakad
- 11)PatanjalYogadarshan,
- 12) HathayogPradipika – SwatmaramYogendra (Kaivalyadhama)
- 13) GherandSamhita
- 14) Shiva samhita – Kaivalyadhama
- 15)Yoga and Ayurveda - Dr.Rajkumar Jain
- 16) Patanjalyogasutra- Karambelkar,
- 17) Patanjalyogadrashanarthatbharatiyamanasshastra- Kolhatkar
- 18) YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
- 19)YogikChikitsa - ShriKedarnath Gupta
- 20)SachitraYogasanDarshika - Dr.IndramohanJha
- 21)Yogadeepika - Shri. B.K.S. Iyengar

- 22) Positive Health - Dr.L.P.Gupta
- 23) Yoga and Yogikchikitsa - Ramharsha Singh
- 24) The Foundation of Contemporary Yoga - R.H.Singh
- 25) YogasidhantaevumSadhna - H.S.Datar
- 26) Light on Yoga - Shri. B.K.S. Iyengar
- 27) Light on Pranayama - Shri. B.K.S. Iyengar
- 28) Light on Patanjalyogasutra - Shri. B.K.S. Iyengar
- 29) Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
- 30) Preventive and Social medicine - J.K.Park
- 34) Community Medicine - Baride and Kulkarni.
- 35) Preventive and Social Medicine – Mahajan
- 36) Preventive and Social Medicine – B.N.Ghosh
- 37) Preventive and Social Medicine – Gupta
- 38) JanasankhyashikshasidhantaevamUpadeysa - S.C.Seel
- 39) Health and Familywelfare - T.L.Devraj
- 40) Text book of Swasthavritta - Dr.Ranade, Dr.Bobade, Dr.Deshpande
- 41) Bio-Statistics - B.K. Mahajan
- 42) Reddy's comprehensive Guide to Swasthavritta- Dr. P. Sudhakar Reddy
- 43) Swasthavrittavidnyan - Dr.MangalaGauri
- 44) Swasthavrittavigyan – Vd. Patrikar Vijay
- 45) Swasthavritta – VdYashwantPatil and Vd. Vhawal
- 46) Food and nutrition – Swaminathan
- 47) Yoga and Nisargopachar- Vd. Prama Joshi
- 48) Yoga a Gem for Women (English and Hindi) - Geeta S Iyengar
- 49) Asana Pranayam Mudra Bandha- Swami SatyanandaSaraswati
- 50) The Science of Yoga- DhirendraBrahmachari
- 51) PrakrutikChikitsaVigyan – Verma
- 52) PrakritikaChikitsa -Kedarnath Gupta
- 53)PrakrutikChikitsaVidhi - Sharan Prasad

Annexure 'A'

PROFORMA

(Non - Communicable Disease case)

A] General Information :

1. Name of the Patient:

2. Age : _____yrs. 3. Sex : Male/Female 4. Religion : _____

5. Date of Admission :

6. Address :

7. Occupation : _____ 8. Education :

9. Per Capita income : _____ Rupees.

10. Socio economic class (Modified _____)

B] Present illness:

Chief complaints (chronological order) :

C] History of past illness :

1. Similar complaints in past :

2. Any other significant history :

D] History of illness in Family :

1. Type : _____ 2. Composition : _____

3. Similar illness in family : Yes /No If yes, give details :

E] Life Style and personal history :

1. Occupation : Manual Work /Table Work/ Field Work/ Administration /Any other (Specify)

2. Muscular exertion (occupational / domestic etc.) Minimum / Moderate /Heavy

3. Exercise: Nil / Walking / Running / Jogging/ Cycling / Swimming / Weight Lifting/ Anyother specify

4. Mental Stress &Strain : Occupational/ domestic/ any other specify

5. Hobby , Recreation :

6. Diet :

a. Veg / Non Veg / Mixed

b. Total calorie intake _____calorie /day

adequate / inadequate/ excess

c. Fat :

adequate / inadequate/ excess

Vegetable / Animal fats

Predominantly saturated / unsaturated

d. Spice & Hot foods (Specify)

e. Regularity in taking meals

f. Type of diet : balanced / Non balanced (Give reason)

7. Sleep and rest : adequate / inadequate

8. Habits & addictions

Smoking : Yes / No /Past Smoker

If yes : Type /duration /quantity/ frequency. _____

Alcohol : Yes / No /Past Alcoholic

If yes : Type /duration /quantity/ frequency. _____

Any Other : Specify, give details.

F] General Examinations : _____

G] Systemic Examination : _____

RS/ CVS/CNS/PA : _____

H] Diagnosis :

i. Provisional : _____

ii. Differential : _____

I] Investigations :

Investigation done : _____

Any further investigations required :

J] Final Diagnosis : _____

K] Management : _____

Drug therapy (give details) :

Diet modification : _____

Health Education / Life Style modification :

Follow up : _____

L] Prevention & Control Measures

Primary Prevention : _____

Secondary Prevention :

Tertiary Prevention : _____

Sign.of Student:

Sign.ofSupervisor:

Date :- _____

Annexure 'B'

PROFORMA

(Communicable Disease case)

A] General Information :

1. Name of the Patient :

2. Age : _____yrs. 3. Sex : Male / Female

4. Date of Examination :

5. Address : : _____

6. Locality : Urban – Slum / Non-Slum /Rural/Other (Specify)

7 Duration of Stay in the Locality ;

_____ (years/months)

8. Hospital Registration No. : _____ 9. Date of Admission :

10. Religion / Caste : _____ 11. Education :

12. Occupation : _____ 13. Type of Family :

14. Total No. of Family Members : _____ 15. Total Family income:

16. Per Capita income per month :

_____Rs.

17. Socio-economic Status (As per _____classification) :

B] Chief Complaints (In Chronological order)

1.

2.

3.

4.

C] H/O Present illness : _____

D] H/O Past illness : _____

i. Similar complaints in past :

ii. Any other significant history :

E] History of illness in the family :

F] Personal History

a. Dietary : _____

b. Immunization : _____

c. Habits : _____

G] Environmental history (Pertinent to the route of transmission)

i] Water Supply ii] Excreta Disposal iii] Drainage iv] Cattle

v] Pet animals, Poultry vi] Housing condition vii] Over Crowding

viii] insect nuisance ix] Courtyard of house etc.

H] Epidemiological information (Backward tracing of index case.)

i. Any similar case in the family / neighborhood / School / Place of recreation / any other

Specify.

ii. History of attending to similar case – if yes, when ?

iii. History of visiting any unaccustomed place if yes, When ?

iv. Total contacts _____v. High risk contacts.

I] Provisional Diagnosis (with justification in brief)

J] Differential Diagnosis :

1.

2.

3.

4.

5.

K] Investigation Done :

a. If yes, reports & your comments.

b. Other investigations required (with reason) if any.

L] Final Diagnosis :

M] Management of Patients :

1 Chemotherapy / Other drugs (Specify with name, dose schedule, route of administration,

duration of treatments and precautions if any)

2. Diet modification

3. Personal Hygiene

4. Health Education

5. Any other (Specify)

6. Follow up :

N] Preventive & Control Measures at

a. Family Level

i. Chemoprophylaxis

ii. Immunization (Active / Passive)

iii. Personal Hygiene (specify)

iv. Chemical disinfections of (Specify)

concentration, quantity, technique, contact period, way of disposal of disinfected material

v. Follow up

vi. Care of Contacts _____

b. Community Level

i. General Intervention measures

ii. Specific measures against the illness

iii. Any other (Specify)

c. National Level

National Health Programme for control / Eradication of the disease or related health

programmes.

Sign.of Student:

Sign.of Supervisor:

Date :-

Annexure 'C'

PROFORMA

(Ante-natal case)

A] General Information :

1) Date of Examination :

2) Name :

3) Age : _____ yrs.

4) ANC Registered : Yes/No If yes, place/date/month of registration

5) Education of pt _____ Occupation of pt

6) Education of Husband _____ Occupation of Husband

7) No of family members _____ Total family income

_____Rs/month

8) Socio-economic class _____ (as per Modified _____ classification)

9) Address :

B] Complaints – if any: _____

C] Menstrual History :Menarche, cycles-day/month, regularity, flow etc.

L. M. P _____ E.D.D. _____

D] Obstetric History :

Gestational

Age (wks)

Type of

Delivery

Hosp./

Home

ConductedBy

Baby alive/stillborn/ abortion

Live birthinterval

Use of contraceptives(specify)

1.

2.

E] Family History :

F] Past History : Hypertension/ Diabetes/ S.T.D./T.B./Leprosy etc.

G] Personal History : Bowel/Bladder/Sleep/Appetite/Habits/Addictions etc.

Immunization status : Tetanus toxoid / Any other (specify)

a) For current pregnancy

b) For previous pregnancy

Nutritional status (based on Calorie Intake, other nutrients, anthropometry etc.)

H] General Examination :

• Height _____ Cms./ Wt. _____ kgs, / TPR /
B.P. _____ mm of Hg

• Pallor/Icterus/ Cyanosis/Oedema/ Lymphadenopathy. any other (specify)

• Cleanliness of : Skin /Nails/Hair/Clothes/Eyes/Ears/Nose/Oral Cavity / breasts & Nipples

etc.

I] P/A Examination:

• Ht. of uterus/presentation and lie of foetus /Head-floating or engaged/foetal movements/FHS/ Any other (specify)

J] Systemic Examination:

RS/CVS/CNS _____

K] Investigations: - Urine: Albumin/sugar/microscopic/culture.

- Hb % Blood grouping & cross matching/VDRL/HIV/Blood Sugar

- Any other (specify) _____

L] Clinical impression :

• Whether high risk ? If yes, mention the risk factors. _____

M] Advice to the Patient and Management :

• Immunization/Diet/Supplementary nutrition/personal hygiene/preparation for motherhood/

drugs given (if any) / Warning signals/follow up visits

• Whether the patient/ family members are availing services from Anganwadi / Other

Community Health Centre /Private Health Agency? If yes – Give details.

- Give details of referral in high risk cases.

N] Follow up :

Findings & Remarks (including advice)

During subsequent visits (mention the date of visits)

O) Comments :

—

—

Sign.of Student:

Sign. of Supervisor:

Date :-

Annexure 'D'

PROFORMA

MALNUTRITION CASE (UNDER FIVE YEARS AGE)

A] General Information :

i..Date of Examination :

ii.. Name of the informer & his/her relationship with the child (case)

1. Name of the child :

2. Date of birth : _____ 3.Age : _____ 4.Sex :
Male/Female

5. Caste /Religion :

6. Address : _____

7. Whether the child is attending Balwadi/Nursery etc.

: _____

8. Father

_____ Mother _____

I. Name : _____

II. Age : _____

III. Education : _____

IV. Occupation : _____

V. Income : _____

9. I Total number of family members and family composition

II. Total family income _____ Rupees per month

III. Per Capita Income _____ Rupees per month

IV. Socio economic Status _____ as per _____ classification

B] C omplaints (if any) : _____

C] History of Present illness :

D] History of Past illness (if any) :

E] Family history : _____

F] Birth history of the case : _____

i. Place of delivery : Home/ Hospital /Other (Specify)

ii. Delivery conducted by : Untrained or trained Dai / Nurse / Doctor etc.

iii. Type of delivery : FTND/ Pre mature/SFD/Assisted delivery etc.

iv. Congenital anomaly : if any give details.

G] Anthropometry

i. Weight : _____Kgs. ii. Height
_____Cms.

iii. Chest Circumference _____ Cms. Iv. Head Circumference
_____Cms

iv. Mid arm Circumference _____Cms.

H] Immunization History

i. B.C.G./ OPV/ DPT/Measles/Any other give details

ii. Immunization card available : Yes / No.

I] Dietary History

i. Breast feeding : Yes/ No

a. If yes : Only breast feed or weaning started

b. If weaned : Age at weaning, type of weaning foods etc.

c. If not breast feed : At what age breast feeding stopped? (give reason if any)

ii. a. Total calorie intake _____Calorie /day

b. Total Protein intake _____gram/day

iii. Calorie / Protein deficient if any : Yes/No.

If yes mention percent of deficient

iv. Any other nutritional deficiency (Specify)

J] General Examination :

1) Built, nourishment & general appearance

2) TPR 3) Pallor 4) Icterus 5) Cyanosis 6) Lymphadenopathy

7) Oedema 8) Dehydration 9) Eyes 10) Ears

11) Face, Nose, Lips & Tongue 12) Teeth gums oral cavity 13) Skin, nails hair

14) Rachitic changes. 15) Any other (specify)

K] Systemic Examination :RS/CVS/PA/CNS/Gonads

L] Milestones of growth & development

Physical / Psychological/ Motor / intellectual / behavioral/ Social

Milestones : Normal/ Augmented / Delayed

M] Provisional diagnosis / Differential Diagnosis :

N] Investigations :

O] Diagnosis :

P] Management, Advise and Comments :

Sign.of Student:

Sign. ofSupervisor:

Date :-

Annexure `E`

PROFORMA

PathyaApathya, RutuShodhan, Yoga Advice to Patients of Attached Hospital.

A) General Information :-

1) Sr. No. : _____

2) Name of the Patient : _____

3) Address : _____

4) OPD No. : _____ IPD NO. _____

5) Diagnosis : _____

6) Date of Advice : _____

B) Advice given

a) Pathya - Apathya

i. Ahara : _____

ii. Vihara : _____

b) RutuShodhanUpakrama :

c) Yogopachar: _____

C) Date of follow up :

D) Remarks: _____

Sign.ofStudent :

Sign. ofSupervisor:

Date :-

Annexure 'F'

PROFORMA

CASE STUDIES – IMMUNIZATION CASE RECORD

1) Name of Child or Mother : _____

2) Address : _____

3) Age : _____ Sex : _____

4) Date of Birth : _____

5) Name of Vaccine given : _____

6) Type of Vaccine : _____

7) Dose : _____

8) Route of Administration : _____

9) Site of Administration : _____

10) Instructions to Mother : _____

Sign.of Student:

Sign. ofSupervisor:

Date :-

8. ROGA NIDANA

Theory- 400 Marks (100 Each)

Practical and viva-Voce - 100 Marks.

PAPER- I FUNDAMENTAL PRINCIPLES OF ROGANIDANA

100 Marks

PART A 50 Marks

1. Paribhasha(Definitions):c omprehensived efinitions of TechnicalT erminologies uch as: Roga, Nidana, Vikriti, Vijnana, Purvarupa, Rupa, Upashaya, Samprapti, Arishtha, Upadrava, Dosha, Dushya, Vyadhi, Vyadhi avastha, Ama, Kleda, Srotas, Srotodushti, SrotovaigunyaA, varana, Prajnyaparadhae tc.
2. Concept and Pathological implications of Tridosha. 63 permutations and combination of Tridosha. Leena and Stambhita Dosha. Cause and importance of Tridosha in Manifestation of Samprapti.
3. Concept of Rakta as a Chaturtha Dosha.Importance of Rakta in the manifestation of diseases.
4. Concept of Ashrayashray bhava and its applied u t i l i t y.
5. Different types of Dosha Gati.
6. Causative factors and practical utility of movement of Doshas from Koshtha to Shakha and Shakha to Koshtha.Concept of Ashayapakarsha.
7. Trayo roga marga their diseases and clinica il importance of Rogamarga.
8. Concepat and classification of Avarana,Its role in pathogenesisism, mode of diagnosis of Avarana and its importance in chikitsa sutra,
9. Applied aspect of DhatuP shanaKrama a d Dhatu Samvahana Concept of Marga and Sthanastha Dhatus.
10. Concept and applied a p e c t s of Doshapaka and Dhatupaka.
- 11.Fundamental and applied aspect of Dhatu,U padhatua nd Mala.Disease developed due to their v i t i a t i o n(pradoshajanyvai kara) .

12. Concept and applied aspects of Srotas, their importance in health and diseased conditions concept and applied aspects of Srotodushti 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 prativishesha,

PART B

50 Marks

1. Concept of Agni and its role in manifestation of health and disease,

2. Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role in pathogenesis.

3. Sama, Nirama stages of Dosha, Dhatu and Mala.

4. Understanding samprapti of Santarpanottha and Apatarpanotth Vayadhi .

5. Detailed classification of diseases as described in Ayurveda, Knowledge of ICDD SM and other systems of classification of diseases.

6. Detailed understanding of Nidan Panchaka in their classification and clinical importance

7, Nidanakarata of contemporary food items and lifestyle.

8. Relation between Hetu & Lakshana and Samprap & Lakshana' .

9. Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.

10. Importance of Upadrava, Arishta and Sadhyasadyata and Udarka.

11. Natural History of the Diseases concept of vyadhisankara in Ayurveda.

PAPER – II ROGA VIJNANA

Marks=100

PART A= 50 Marks

- Comprehensive knowledge of diseases mentioned in Samhitas
- Knowledge of classical Samprapti of following diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadyata and Chikitsa Sutra. Knowledge of commonly occurring diseases of the respective systems mentioned in contemporary medicine.

1. Diseases of Pranavaha srotas- Kasa - Shwasa - Hikka - Urahkshata - Shosha - Rajayakshma and 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 with various clinical presentations. Common clinical entities like Peptic Ulcer, Irritable Bowel Syndrome, Diarrhoea, Dysentery, Constipation, ulcerative colitis. Nutritional disorders.
3. Diseases of Udakavaha Srotas- Trishna, Daha and knowledge of water and electrolyte imbalance disorders
4. Diseases of Rasavaha Srotas - Jwara. Common clinical entities like various types of Fever- Malaria, Typhoid, viral fevers. Pandu, Amavata, Hridroga, Shotha and common clinical entities like Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Angina, Ischaemic Heart Disease, Hypertension, Myocardial Infarction, Congestive cardiac failure. Endocrinal disorders.
5. Diseases of Raktavaha Srotas- Kamala - Raktapitta - Vatarakta - Kroshukaseersha - Shitapitta - Maha Kushta - Visarpa - Shwitra and Kshudra Kushta and common clinical entities like jaundice, hepatitis, bleeding disorders, Gout, Thrombo Angitis Obliterans (TAO), Deep Vein Thrombosis (DVT), Leukaemia, Thalessemia, Sickle cell Anaemia. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus, Herpes.
6. Diseases of Mansavaha srotas- Introduction to Granthi, Arbuda, Galaganda and Arsha. All types neoplasia.

Part B=50 Marks

1. Diseases of Medovaha srotas- Sthoulya - Karshya - Prameha and common clinical entities like Obesity and Diabetes Mellitus.
2. Diseases of Asthi - Majjavaha srotas- Sandhigatavata, Introduction to Asthi-majjaparipaka, Asthigata Vidradhi and common clinical entities like Osteo-Arthritis, Osteomyelitis, Osteoporosis.
3. Vatavyadhi-Akshepaka - Apatanaka - Ardita - Pakshaghata - Gridhrasi - Viswachi, Avabahuka, Manyasthambha - Katigraha-Pangutwa- Khanja-Khalwee and common clinical entities like Hemiplegia, Parkinson's disease, Lumbago-Sciatica syndrome, Bell's Palsy, Ankylosing Spondylitis, Motor Neuron Disease and other commonly occurring neurological diseases.
4. Diseases of Sukravaha srotas- Klaibya and Vandhyatva and understanding of male and female Infertility, Impotence.
5. Diseases of Mutravahasrotas -Mutrakrichha, Mutraghata, Ashmari, common clinical entities like Urinary Tract Infection, Urolithiasis, Nephropathies & Renal failure.
6. Diseases of Swedavaha srotas-knowledge of khalitya, Palitya and Cosmetology.
7. Diseases of Manovaha Srotas - Vishada, Udvega, Bhaya, Bhrama, Anidra, Mada, Murchha, Sanyasa, Apasmara, Unmada, Atatwabhinivesha and common clinical entities like Depression, Anxiety neurosis, Phobia, Personality disorders.
8. Indriya Pradoshaja Vikara.
9. Jara janya Vyadhi: Common Geriatric disorders.
10. Concept and tools for the study of Anukta Vyadhi- Unexplained and newly emerging diseases such as AIDS, Dengue, Chickungunia, H1N1, Leptospirosis, Metabolic syndrome etc.
11. Understanding the concept of karmaja vyadhi

PAPER – III PARIKSHA VIJNANA [CLINICAL EXAMINATION AND LABORATORY DIAGNOSTICS]

Marks=100

Part A= 50 Marks

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

Part B= 50 Marks

1. Ayurvedic interpretation of all relevant findings of modern clinical examinations.
2. Understanding of diagnostic procedures in medical emergencies.
3. Concept of Good clinical practice in Ayurveda and modern medicine.
4. Knowledge of standard clinical laboratory set up.
5. Knowledge of Ancillary common laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values & clinical significance as mentioned in practical syllabus.
6. Importance of Bio markers and their utility in clinical researches
7. Update knowledge of emerging diagnostic tools and technologies.
8. Knowledge of various Ayurvedic diagnostic softwares/programmes available.
9. Avayava Pariksha – Radio- Imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER - IV VIKRITI VIJNANA AND JIVANU VIJNANA [GENERAL PATHOLOGY, PARASITOLOGY AND MICROBIOLOGY]

Marks=100

Part A= 50 Marks

1. Introduction to general pathology.
2. Cell injury and cellular adaptations
3. Immunopathology including amyloidosis. The concept of Ojas vis-à-vis Bala, Anurjata, Asatmya, Hypersensitivity.
4. Concept of Shotha ; Inflammation, oedema and healing
5. Derangement of Homeostasis and Hemodynamic disorders
6. General character and classification of Neoplasia.
7. Concept of genetic diseases and Bija dosha

Part B= 50 Marks

1. Upasargajanya Vyadhi (Communicable diseases)- Romantika –Measles, Chickenpox Upadamsha – Phirang and introduction to Syphilis, AIDS, Leprosy, Tuberculosis
2. Detail study of Krimi Vigyanam with classification and diseases caused.
3. Concept of Snayuka, Shleepada and introduction to Filariasis and classification, mode of infection, life cycle and diseases caused by common parasites.
4. Concept and applied aspects of Janapadodhvansa and Environmental diseases
5. Knowledge of common Bacteria, Virus, 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 / Hospital O.P.D.
2. Regular posting in Roga nidana / Hospital 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. Dipstic 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
 - a. Ayurvediya anusara Retas pariksha.
 - b. 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, ASLO titer, ANA, Etc.
14. Physical, chemical, microscopic, biochemical and bacteriological tests for various kinds of body aspirates.
15. Knowledge of histopathological techniques.

BEDSIDE PRACTICAL /CLINICAL METHODS

1. Practical knowledge of ECG, USG and Imaging techniques and their clinical interpretation

2. Understanding of various Ayurvedic diagnostic softwares/programmes available like Ayu soft, Rudra, Ayut Nidana etc.

1.

9. PRASUTI TANTRA- STREE ROGA

PAPER – I Garbhagarbhini Vigyana

100 Marks

1. **Embryology or development** and Applied **Anatomy** of female Genito urinary system, Pelvis and Pelvic floor. Pelvic assesment and foetal skull.
2. Physiology, **Neuro endocrinology** and **Pathology** of puberty and Neuroendocrine control of menstrual cycle.. Artava, Rituchakra, Streebija, Pumbija.
3. Garbha sambhava samaagri, Garbhadharaanam, Pre-conceptional counseling and care, Pumsavana, Garbhasya shad dhatvatmakata, Garbhavakranti, Matrijadi bhava, Garbha vriddhi, role of **Panchamahabhutas** in the formation and development of foetus. Garbhasya avayavotpatti, Fundamentals of reproduction – gamatogenesis, Fertilization, Implantation and early development of human embryo.
4. Apra, Garbhodaka Jarayu, Nabhinadi. Placenta, amniotic fluid, membranes and umbilical cord -their formation, structure, Functions and abnormalities. Garbha-poshana, Garbha shareerkriya vaishishtyam, Garbha lingotpatti, Garbha varnotpatti, Garbhasya masanumasika vriddhi. Foetal physiology, circulation, Foetal growth and development
5. Bija – Bijabhaga – Bijabhagavayava janya garbhanga vikriti. Genetics,**Ayurgenomics** Birth defects and other teratologic abnormalities
6. Garbhini nidana, sapekshanidana, Garbhakalina matrigata parivartana, lakshana, Dauhrida. Diagnosis and differential diagnosis of pregnancy, anatomical and physiological changes during pregnancy, Endocrinology related to pregnancy, Immunology of pregnancy.
7. Garbhiniparicharya, Masanumasika Pathya Apathya evum Garbha upaghatakara bhava. Ante Natal care, examination investigations and management,.
8. Garbhasankhya nirnay, Bahu apatyata, Multiple pregnancy.
9. Garbhavyapada - causes, clinical features, complications, management and treatment of Garbhasrava and Garbhapata , Upavishtaka, Nagodara / Upashushka, Lina garbha, Goodagarbha, Jarayu Dosha, Antarmrita garbha , Garbha shosha, Garbha kshaya, Bhutahrta garbha, Raktagulma. Abortions, I.U.G.R, Intrauterine Foetal death, Ectopic pregnancy, **Hydatidiform mole** and gestational trophoblastic neoplasia,
10. Garbhini vyapada – nidana panchaka and chikitsa of garbhini vyapad. Early recognition, differential diagnosis and prompt management of pregnancy complications, Emesis and Hyperemesis gravidarium, Anaemia, Pregnancy Induced Hypertension, Pre-eclampsia, Eclampsia, Antepartum hemorrhage, Rh-incompatibility. Management of pregnancies complicated by medical, surgical or Gynecological disorders in consultation with the concerned specialties by team approach
 - a. Pyrexia, Heart disease, Diabetes mellitus, Liver disorders, Respiratory diseases, Renal diseases, Epilepsy, Hypertensive disorders.
 - b. Fibroids, Ovarian tumors, Genital prolapse, **Carcinoma**.Infections in pregnancy:

Toxoplasmosis, Viral infections ,**Tuberculosis, UTI**, Rubella, CMV, Hepatitis-B, Herpes, Syphilis and other Sexually Transmitted Infections including HIV **etc.**, Prevention of mother to child transmission of HIV infection (PMTCT).
11. Jataharini related to garbhini avastha

12. Evaluation of Foetal and **M**aternal health in complicated pregnancies by making use of diagnostic modalities.
13. Prenatal diagnosis of fetal abnormalities and appropriate care. PNDT Act and its Implications.
14. **Panchakarma and Yoga in Prasuti tantra**
14. Vishesh adhyayana of –

Ashtanga **H**riday **S**harira - Adhyaya -1st – Garbhavkranti

Sushruta **S**amhita **S**harira - Adhyaya -3rd – Garbhavkranti

Charak Samhita **S**harira - Adhyaya - 8th Jatisutriya

High riskpregnancy, bad obstetrical history, teenage and elderly pregnancy, scar dehiscence.

PAPER – II Prasava – Vigyana

100 Marks

Prakrit Prasava

1. Prasava paribhasha, Prasava kaal, Prasava prarambha karana, Prasava kalina garbha sthiti, **Aavi**, Sutikagara.
 - a) Initiation and onset of parturition.
 - b) Examination and evaluation of patient in labour.
 - c) Physiology of labour.
 - d) Mechanism of labour.
 - e) Selection of place of delivery and labour room.
2. Prasava avastha evum paricharya
 - a) Stages of normal labour
 - b) Intrapartum maternal and foetal monitoring
 - c) Management of normal labour

Prasava vyapad

1. Etiopathogenesis, clinical features, prevention and management of Garbhasanga, vilambita prasava, Mudhagarbha and Aparasanga.
 - a. Prolonged labour
 - b. Cephalo pelvic disproportions
 - c. Malpresentations
 - d. Obstructed labour
 - e. Methods of Induction and Augmentation of labour
2. Complications of different stages of labour
3. Obstetric management of high risk Pregnancies- Pre **eclampsia**, Eclampsia, Diabetes, cardiac diseases, **Asthma**, Epilepsy, Ante partum haemorrhage, **Preterm & Premature** rupture of membranes, , Preterm, Post term, Multiple pregnancy, IUGR & HIV -AIDS
4. Still birth- diagnosis, complications and management.
5. **Foetal distress**

Jatamatra/ Navajata shishu paricharya

1. Examination and management of neonate.
2. Management of birth asphyxia.

3. Detection of congenital malformation in newborn and timely referral for correction.

Sutika vigyana

1. Sutika Paribhasha, kala maryada, paricharya.
2. Sutika vyadhi and their chikitsa.
3. Stana sampat, Stanya utpatti, Stanya sampat, Stanya pariksha, Stanya vriddhi, kshaya and dusti karana, lakshan and its Chikitsa, stana shotha, stana vidhradhi.
4. Suppression of lactation
5. Normal and abnormal puerperium.

Obstetric shock and management

1. Raktadhana: blood transfusion and replacement of blood constituents.
2. Management of fluid and electrolyte imbalance in obstetrics.

Drugs used in obstetric practice, indications/contra indications, doses and side effects. (Modern and Ayurvedic)

Recent studies and advancement in the field of Prasuti Tantra.

Vishesha Adhyayana of –

Ashtanga Hridaya Sharira Sthana 2nd Adhyaya – Garbha vyapad

Sushruta Samhita Nidana Sthana 8th Adhyaya – Mudhagarbha nidana

Sushruta Samhita Chikitsa Sthana 15th Adhyaya – Mudhagarbha Chikitsa

PAPER – III Stree Roga vigyana

100 Marks

1. **Disorders of menstruation and Female reproductive system.**
 - A) Congenital malformations of female genital tract
 - B) Artava dushti, Artava vriddi, Artava kshaya, Asrigdara, Anartava, and Kashtartava.
 - C) Genital infections including sexually transmitted infections.
 - D) Abnormal vaginal discharges. **Sweta pradara**
 - E) Arsha, Yonikanda, Granthi, Arbuda.
 - F) Abnormal uterine bleeding, Endometriosis, fibroid uterus, Adenomyosis, Polycystic ovarian syndrome and neoplasia of female genital organs.
 - G) Endocrinological disorders affecting female reproductive system.
 - H) Somaroga.**I) Urinary disorders, VVF, RVF Etc.**
2. **Detailed study of Yoni Vyapada mentioned by different Acharyas with their commentaries and all possible correlations with modern gynecological diseases.**
3. **Bandhyatva**

A) Hetu, Bheda, Pariksha, and Chikitsa.

B) Detailed study of causative factors, Investigations with recent advances in management of infertility, Adoption law.**ART**

4. **Stanaroga**

Detailed study of Stanashotha, Stanakilaka and stanavidradhi, stana granthi, stanarbuda.

Fibroadenoma , Fibroadenosis breast, ANDI, Carcinoma breast.

Examination of breast, diagnosis and differential diagnosis of breast lump.

5. **Measures of contraception**

A) Ayurvedic view of Garbha nirodha and Garbhapatkara yogas.

B) Temporary Contraception

C) National Health programme to improve maternal and Child health, **Social Obstetrics and Vital Statistics** (maternal and perinatal mortality **and morbidity**).

6. **Sthanik chikitsa**

Detailed study of Pichu, Varti, Dhupan, Dhavana, Parisheka, Iepa, Kalkadharana, Uttarabasti, Agnikarma and Kshara Karma.

7. **Rajo Nirvritti** - Climacteric and menopause.

- Geriatric health care

8. **Study of modern diagnostic techniques and Investigations.**

9. **Important drugs used in Streeroga.(Modern & Ayurvedic)**

10. **Panchakarma & Yoga in streeroga**

11. Recent studies and advancement in the field of Stree Roga.

12. **Vishesha Adhyayana of –**

Charaka Samhita Chikitsa Sthana – 30th Adhyaya - Yonivyapad Chikitsa

Sushruta Samhita Uttara Tantra – 38th Adhyaya – Yonivyapad Pratishedha

Kashyapa Samhita Kalpa Sthana – Shatapushpa Shatavari, Lashuna kalpa Adhyaya

PAPER – IV Prasuti Tantra–Stree Roga–Shalya Karma

100 Marks

General principles of Gynecological and Obstetrical Surgeries. **suturing, suture materials, sterilization, autoclaving etc**, Analgesia and Anaesthesia in Obstetrical and Gynaecological operative procedures.

Operative Obstetrics

Decision making, techniques, diagnosis and management of surgical complications.

Dilatation and evacuation, Hysterotomy, Provision of safe abortion services –selection of cases, techniques and management of complications, septic abortion, criminal abortion, MTP Act.

Cervical encirclage.

Instrumental delivery (Forceps, vacuum extraction), **Episiotomy, perineal tear repair**, Caesarean Section, Manual removal of Placenta, Caesarean Hysterectomy.

Operative gynecology

Selection of cases, technique and management of complications of minor and major gynecological procedures.

Dilatation and Curettage, Cervical cauterization. **cryosurgery**

Polypectomy, Myomectomy, Cystectomy, Oophorectomy. **Marsupialisation, punch biopsy, endometrial biopsy, IUI**

Surgical sterilization procedures.

Hysterectomy.

Surgical procedures for genital prolapse.

Surgical management of benign genital neoplasm.

Laparoscopic surgeries in Gynaecology

Recent advances in Gynaecology and **Obstetrics** – Diagnostic and therapeutics

Shock and its management, Blood Transfusion, Fluid and electrolyte imbalance, Fluid therapy.

Record keeping, ethical and legal issues involved in **Obstetrics** and **Gynaecology**.

Medico-legal aspects – ethics, communication and counselling in **Obstetrics** and Gynecology

EMERGENCY care in Obstetrics and Gynecology.

Content of Practical

1. Practical training to conduct
 - Normal and Complicated deliveries
 - Assisted/ Instrumental deliveries
 - Caesarean Section

- Neonatal resuscitation
2. Practical knowledge of grabhini pricharya, sutika pricharya and masaanumasik garbha vriddhi.
 3. Practical training to perform **Obstetrical and Gynaecological Surgeries.**
 4. Practical training to provide **Family Welfare/ Planning services, safe abortion methods along with surgical sterilization.**
 5. Practical knowledge and practice of all relevant equipment, Procedures, complications, Emergencies with their management.
 6. Practical knowledge of Yogasanas and pranayam useful in Stree **Roga** and Prasuti **Tantra.**
 7. Practical knowledge of Panchakarma and Sthanik Chikitsa used in Stree **Roga** and Prasuti **Tantra.**
 8. Practical Knowledge of recent advances in Gynaecology and obstetrics.

Pattern of Practical Examination

Total Marks: 200

- | | |
|--|------------|
| 1. Practical Record Book | - 20 Marks |
| 2. Bed side examination
Short Case | - 20 Marks |
| Long Case | - 40 Marks |
| 3. Identification of the Instruments/x-ray/USG plate | - 20 Marks |
| 4. Thesis Presentation | - 50 Marks |
| 5. Viva Voce | - 50 Marks |

Reference Books-

1. Related matter from all the **Samhitas** and their commentaries.
2. Prasuti **Tantra** evum **Stree Roga** by **Prof Tewari P V**
3. Concepts of **Gynecology** Dr **Nirmala G Joshi.**
4. Prasuti **Tantra** Prof. **M. Dwivedi**
5. **Stree Roga** vigyan - Dr **VNK Usha**
6. **Navya Prasuti Vigyan** Dr **Pooja Bharadwaja**
7. Text book of **Gynaecology**-**Berek and Novak.**
8. Text book of **Obstetrics**- **Williams**
9. Text book of **Obstetrics**- **D C Dutta**
10. Text book of **Gynaecology** - **D C Dutta**
11. **Gabbe's** normal and problem pregnancies.
12. **Human Embryology** by **Saddler.**
13. **Jeffcoat's** principles of **Gynaecology**
14. **Te linde's** **Gynaecological surgery.**

10. KAUMARBHRITYA-BALA ROGA

PAPER – I

Bija, Garbha Vigyaniya (Human Genetics, Embryology)

Marks: 100

Part A

1. Ayurvedic genetics with modern interpretations: Shukra, Shonita, Shukra Shonita Doshas, Bija-Bijabhaga-Bijabhagavayava Vikriti, Matrija and Pitraja Bhavas, Yajjah Purushiya and Atulyagotriya; Measures for obtaining good progeny.
2. Human genetics
Basic concepts:
 1. Cell, cell division, nucleus, DNA, chromosomes, karyotype, molecular and cytogenetics, structure of gene, and molecular Screening.
 2. Human Chromosomes - Structure, number and classification, methods of chromosome preparation and banding patterns.
 3. Single gene pattern inheritance: Autosomal & Sex chromosomal pattern of inheritance, Intermediate pattern and multiple alleles, Mutations, Non Mendelian inheritance, mitochondrial inheritance, Genomic imprinting, parental disomy.
 4. Criteria for multi-factorial inheritance.

Pathogenesis

1. Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, inborn errors of metabolism
2. Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities and syndromes
3. Multifactorial pattern of inheritance: Teratology, Cancer Genetics – Haematological malignancies, Pharmacogenetics.
4. Chromosomal disorders
5. Chromosomal aberration (Klinefelter, Turner and Down's syndrome)
6. Genetic Counseling, Ethics and Genetics.

Part B.

1. Garbha, Garbhawastha, sperm, ovum, spermatogenesis, oogenesis, structure of ovum.
2. Sperm in the male genital tract, sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasika Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
 - First week of development
 - Second week of development
 - Third week of development
 - Fourth to eighth week of development.
 - Development from third month till birth.

4. Formation of Prakriti and their assessment in Bala, Kumara, Yauvana. Pathya-Apathya according to Prakruti.

5. Apara (Placenta) Apara Nirmana (Formation of placenta), Apara Karya (Functions of placenta); Apara Vikara (Placental abnormalities)

6. Nabhinadi (Umbilical Cord)

7. Formation and features of umbilical cord

8. Garbha Poshana (Nutrition) from conception to birth.

9. Yamala Garbha(twins)

10. Garbha Vriddhikara Bhavas.

11. Garbhopaghatkara Bhavas, Effect of maternal illness, medication and diet over fetus.

12. Perinatal Care and Perinatal complications

13. Scientific study of Jataharini .

14. Prenatal diagnosis

15. Samanya Janmajata Vikara (Common congenital anomalies of different systems): Causative Factors (Beeja, Atamakarma, Ashaya, Kala etc.) Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Spina bifida, Meningocele, Meningomyelocele, Khandaoushtha (cleft lip), Khanda-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equinovarus and valgus), Tracheoesophageal Fistula (TOF), Pyloric Stenosis.

PAPER-II

Navajata Shishu Vigyana evam Poshana

Marks: 100

PART-A

1. Navajata Shishu Paribhasha, Vargikarana.
2. Navajata Shishu Paricharya evam Prana-Pratyagamana.
3. Samanya Navajata Shishu Paricharya (General Neonatal Care–Labour room onwards).
4. Samaya purva evam Samaya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn).
5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput Succedaneum, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage).
6. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including assessment of gestational age.
7. Kumaragara: Navajata Shishu Kaksha Prabandhana (Nursery management; Nursery plan, staff pattern, medical records.), Neonatal Intensive Care Unit, Visankramanikarana (sterilization), Knowledge of equipments used in nursery.

PART-B

8. Navajata Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shwasavarodha (Asphyxia Neonatorum/Respiratory distress), Ulvaka (Aspiration pneumonia), Rakta Vishamayata (Neonatal septicemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamyak Nabhinala kartanajanya vyadhi.
9. Navjata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha (constipation), Udara shula (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).
10. Sadyojatasya Atyayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, Convulsion, Hemorrhagic diseases of Newborn etc.
11. Procedures: Shiro-Pichu, Abhyanga, Parisheka, Pralepa, Garbhodaka Vamana (Stomach wash), Ashchyotana, Neonatal resuscitation, Collection of Blood sample, Intravenous canalization, Umbilical vein catheterization, Bone marrow aspiration, Phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture
12. Nutrition:
 - A. Navjata Shishu Ahara (Neonatal feeding):
Specific feeding methodology as per Ayurveda and recent advances. Fluid, milk and calory requirement for the newborn, feeding technique for the preterm baby.
Stanyotpatti and Prasruti (physiology of Lactation), Stanya Sanghatana (Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampat evam Mahatva (Properties & importance of breast milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate/ absence of breast milk), Stanya parikshana (Examination of breast milk), Stanyabhava Pathya Vyavastha (Alternative feeding in absence of breast milk), Total Parenteral Nutrition.
Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk).
Dhatri (Wet nurse): Dhatri Guna and Dosha (Characteristics of Wet nurse),
Concept of Breast Milk Banking.
Lehana (Elucturies).
 - B Bala-Poshana (Child Nutrition):

Daily requirements of nutrients for infant and children
Common food sources
Satmya and Asatmya Ahara (Compatible and incompatible diet)
Pathya evam Apathya Ahara (Congenial and non-congenial diet)
Stanyapanayana (Weaning)

PAPER-III

Balroga (Pediatric Disorders)

Marks: 100

PART-A

1. Disorders of Pranvaha Srotas (Respiratory disorders)- Kasa (Cough), Shwasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (Tuberculosis), Vaksha-Puyata (Pyothorax), Vaksha Vata-Purnata (Pneumothorax).
2. Disorders of Annavaaha Srotas (Gastrointestinal disorders): Jwara (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea),

- Pravahika, Vibandha (Constipation), Udarshula (Pain in abdomen), Guda bhramsha (Rectal prolapse).
3. Disorders of Rasa evam Raktavaha Srotas (Hematological and circulatory disorders): Pandu (Anemia) and Raktapitta (Bleeding disorders), Vishishta Hridroga (Specific cardiac diseases), Hypertension, Leukemia.
 4. Disorders of Mansavaha Srotas: Myopathies
 5. Disorders of Mutravaha srotas (disorders of Urinary System): Vrikkshotha (Glomerulonephritis and nephrotic syndrome), Mutrakrichra (Dysuria), Mutraghata (Anuria).
 6. Disorders of Vataavaha Sansthana (disorders of Nervous system) : Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis).
 7. Disorders of Manovaha Srotas : Breath holding spell, Shayya mutra (Bed wetting), Autism, ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental retardation, Temper tantrum, Pica.
 8. Pediatric disabilities and Rehabilitation: Cerebral palsy, Ardita (Facial paralysis), Pakshavadha (Hemiplegia), Ekangaghata (Monoplegia), Adharanga Vayu (diplegia),. Amavata (Juvenile Rheumatoid arthritis).

PART-B

9. Antahsravi evam Chayapachayajanya Vyadhi (Endocrine and Metabolic disorders).
10. Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha-Parigarbhika (PEM and allied disorders), Deficiency disorders of Vitamins, minerals and trace elements, Hypervitaminosis.
11. Krimi evam Aupsargika Vyadhi (Infestations and Infections):Krimi (Giardiasis and intestinal helminthiasis,Amoebiasis) Common bacterial, viral infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha (Mumps), Rubella, Masurika (Chickenpox), Antrika Jwara (Typhoid and Paratyphoid), Viral Hepatitis, Vishama Jwara (Malaria), Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Chickengunia.
12. Tvak Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.
13. Anya Vyadhyi (Miscellaneous disorders): Jalodara (Ascites), Gandamala, Apachi (Cervical lymphadenitis), Kukunakadi Akshi Roga, Hodgkin & non-Hodgkin Lymphoma, Abnormal growth patterns, Short stature , Niruddha prakasha (Phimosis), Paridagdha Chhavi, Utphullika.
14. Sanghata- Bala Pravrita Vyadhi (damstra): Dog bite, Snake bite, Scorpion bite etc
15. Atyayika Balarog Prabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute hemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
16. Balagraha: Scientific study of Bala Graha and its management.
17. Life Style disorders

PAPER-IV

Kaumarbhryta in Ancient Classics and recent Advances

Marks: 100

1. Significant contributions of Kashyapa samhita, Arogya raksha Kalpadrum and other texts /treatises of Ayurveda such as Harita Samhita in the field of Kaumarbhryta including relevant parts from Brihatrai

2. Panchakarma: Principles of Panchakarma, and their application in pediatric practice.
3. Update knowledge of clinical pediatrics including recent researches in Kaumarbhritya.
4. Fundamentals of Hospital management with special emphases on Pediatrics.
5. Drug and Doses in Pediatrics.

Practical/ Clinical Exposure (Record of exposures to be produced at the practical examination)

1. Full term, preterm, post term new born baby care
2. Practical procedures like – phototherapy, premature baby care, venepuncture, cord blood sampling, stomach wash, suction, resuscitation, etc.
3. Practical skill of Pediatric Panchakarma procedures
4. Child Health Check up
5. IQ Assessment in Children
6. Exposure to National Health Programmes related to Children, including Immunization Program.
7. Patient case Records (50 Records)
8. Practical knowledge of modern diagnostic tools (invasive & non invasive) and techniques used in pediatrics.
9. Management of common pediatrics emergencies.
10. Participation in UG teaching/training.
11. Minimum 15 days compulsory reciprocal exposures in Kaumarbhritya department of other institution during the study period.
12. Participation in National/international seminars.
13. Publication/acceptance of two research papers in indexed/peer reviewed/ISSN journals.

Pattern of practical examination:

- | | |
|--|-----------|
| 1. Case record | -15 Marks |
| 2. Bed side examination | |
| a) Short Case | -15 Marks |
| b) Long Case | -25 Marks |
| 3. Identification of instruments/ spotting | -10 Marks |
| 4. Lecture/Dissertation Presentation | -10 Marks |
| 5. Viva-voce | -25 Marks |

Reference Books

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & practice of Pediatrics in Ayurveda: CHS Shastri
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic Concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratyagamanam-by Dr. B.M. Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. KS Patel, V.K. Kori & Rajgopal S
10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita, Harita Samhita, Ashtang Sangrah, Ashtang Hridayam etc.

11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh
16. Human Embryology by Inderbeer Singh.
17. Human Genetics by Gangane.

11. KAYACHIKITSA

**PAPER- I Fundamentals of Kayachikitsa
marks**

100

1. Rogi-Roga Pariksha: Nidan Panchak, Trividha pariksha, Ashtavidhpariksha, Dashvidhpariksha in the light of recent advances. Clinical methods-Detailed history taking and patient examination, **Shadang pariksha** (Systemic examination) as per ayurveda and recent advances.
2. Interpretation of investigations: ECG, Echo cardiography, TMT, Spirometry, X-ray, USG, CT-Scan, MRI, EEG, EMG, Etc in different pathological conditions.
3. Detailed Knowledge of Principles of Chikitsa in Ayurveda. Classification of Rogas, Types of Chikitsa. Principles and practices of Rasayana and Vajikarna.
4. National Health Programmes/NRHM and prospective role of Ayurveda services and therapeutics in them **with special reference to Kayachikitsa**.
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, tractions, **nebulizations, lumber puncture, etc.**
7. Ayurveda Dietetics: Importance of Pathya, Apathya and Anupana.
8. Drug-drug interactions and adverse drug reactions, Iatrogenic disorders.

**PAPER – II Samanya Roga Chikitsa
marks**

100

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 including **Kshaya, Vridhi srotodushti janya vyadis such as:**

1. Pranavahasrotas: Shwasa, Hikka, Kasa, Rajyakshma, Hridroga, Parshwashoola, Urakshata, Svarabheda.
Cardio-respiratory system: Bronchitis, Bronchiectasis, 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. Annavaahasrotas: Agnimandya, Ajirna, Aruchi, Amadosha, Amlapitta, Chhardi, Shoola, Grahani.
Gastrointestinal disorders: GERD, APD, Malabsorption Syndrome.
3. Udakavaahasrotas: Trishna, Shotha, Udararoga, water and electrolyte imbalance
4. Rasavaha srotas: Jwara, Amavata, Pandu, Madatyaya, Anaemias, Rheumatoid arthritis.
5. Raktavaha Srotas: Raktapitta, Kamala, Vatarakta, Kushtha, Kshudraroga, Sheetpitta, Udarda, Kotha, Visarpa, Shvitra. Haemopoietic 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 **such as Psoriasis**, Eczemas.
6. Mamsa-Medovahasrotas: Medoroga, Sthaulya, Prameha, Galaganda, Gandamala, Urustambha, Diabetes mellitus, Obesity.
7. Asthi-Majja vahasrotas: Asthikshaya, Sandhigatavata, Osteoarthritis, Osteopenia, **Osteoporesis**.
8. Shukravahasrotas: Such as Klaivya, Dwajabhanga, Impotence.
9. Mutravahasrotas: Mutrakricchra, Mutraghata, Ashmari, Urinary disorders: UTI, Lithiasis, ARF, CRF, Uraemia, BPH.
10. Purishvaha srotas: Atisara, Pravahika, Anaha, Adhamana, Krimi, Udavarta, Diarrhoeas, Dysentery, Ulcerative colitis, IBS, **Intestinal** Worm infestation.

PAPER – III Vishishta Roga Chikitsa
marks.

100

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

1. Vata-Vyadhi:- Pakshavadha, Ekangvata Ardhanga Vata, Sarvanga Vata, Ananta Vata, Gata Vata, Gridhrasi, Ardita, Akshepaka, Apatantraka, , Vishvachi, Avabahuka, Avarana, Urustambha.
Musculoskeletal disorders: Myopathies, Muscular dystrophies, Lumbago

Neurological disorders: Neurodegenerative disorders like Alzheimer's, Parkinsonism, CVA, Neuropathies, Facial palsy, G B Syndrome, Motor Neuron Diseases, Epilepsy, Sciatica.
2. Sankramakroga: Sheetala, Masoorika, Updansha, Phiranga, Gonorrhoea, Chancroids, Syphilis.
3. Manasa vyadhi:- Unmada, Apasmara, Atatvabhinivesha, 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, Metabolic Syndrome.
5. Endocrinal disorders: Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.
6. Parasitic/Infective/Communicable disorders: Shlipada, Filariasis, Vishama Jwara, Malaria, Manthara Jwara, Enteric Fever, Dengue, Chickenpox, Measles, Influenza,

- Kalaazar, Mumps, Rabies, Poliomyelitis, Plague, Meningitis, Encephalitis, Chikungunya, HIV/AIDs, Common worm infestations.
7. Neoplastic disorders and their management strategies. Role of Ayurvedic 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, **Substance abuse**.
 10. Janapadodhvamsa Vikara:- Environmental diseases Causes, **impact on human health and** their management.
 11. **Ashtonindhataya Prusha and their clinical relevance.**

**PAPER – IV Advances in Kayachikitsa
Marks.**

100

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: Chikangunya, 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 -100 Marks

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. **Publication of One Scientific paper based on Thesis Research preferably in indexed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.**

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 | 20 Marks. |

Academic Competence evaluation- 40 marks based on:

- | | |
|--|-----------|
| 1. Viva | 30 Marks. |
| 2. Teaching and communication skills/ Thesis presentation in PPT /: | 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. Dwarakanath
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. Relevant texts of concerned subjects.

12. MANOVIGYAN AVUM MANASAROGA

PAPER-I Manovyapara Evam Manovigyanam

Marks

100

1. Prachya - arvachya matanusara Mano viganasya Bhutavidyayah, Amanusha tatha Grahadinam parichaya, setihasa.
2. Prachya arvachya matanusara Manasah Nirupanam-Concept of Manas from Ayurved and modern perspective.
3. Vividha darshananusara Manasah varnanam:- concept of mind in various philosophies.
4. Manasah Svarupam - Structure of mind, Manasah Sthanam- Location of mind, Manovishayah- Objects of mind, Manogunah (Anutva and Ekatva) -Attributes of

mind- Minuteness and oneness, Manasah Ubhayatmakatvam-Duality of Manas, Manasah Dravyatvam Karanatvam cha- mind as a substance and tool, Manasah Karanadravyatvam-mind as causative substance, Manodoshah- (Rajas and Tamas), Manasah Bhoutikatvam- Elemental nature of Manas Introduction to concept of Buddhi and Ahamkara - intellect and ego, Manasah Ahamkarikatvam - origin of mind from ego (samkhya), Manasah Annamayatvam- Relationship between food and mind, Manasah trigunatmakatvam (Sattva, Rajas, Tamas)- mind and the three major attributes, Manasah jadatvam- inertia of mind, Manasah dhatutvam-mind as a component of living being, Manasah Karma- Actions of Manas.

5. Manovyapara Nirupanam.
6. Manovyapare Pranodana sadhaka Bodhakadi Doshanam Sambandhah-Relation of humoral fractions such as Prana, Udana, Sadhaka- Bodhaka in the activity of Manas, Concept of Ojas and Manas
7. Katham prakopayanti ManoDoshah SharirDoshah?- How does manasika Doshas aggravate sharirika Doshas?
8. Indriya panchanchakam- five factors in relation to the mental faculties.
9. Gyanendriyanam vishayah- the objects of sense faculties.
10. Gyanotpatti prakriyayam Manaso pradhanyam- Importance of Manas in cognitive process.
11. Indriyarthagrahananantaram Manasah vyapara avum gyanotpattou manaso dayitvam - Action of Manas in cognition after reception by respective Indriya.
12. Knowledge of Dirgha Shashkuli nyaya, Alata-chakra nyaya, Vichi-taranga nyaya, Kadamba-mukula nyaya.
13. Shabda - sparsha - rupa - rasa - gandhanam grahakam manah, tasya mahatvam cha - Manas as conductor of sense objects and its importance.
14. Vayuh indriyanam udyojakah tatha Manasah preranam -Vayu as stimulator of indriya and initiator of manas.
15. Vakpravrittou Manasah yogadanam - Role of Manas in production of speech.
16. Pratisharire Manasah bhinnatvam - Concept of individuality of mind.
17. Chikitsya purushah- treatable person (living being).
18. Atma nirupanam- description of Atma, Sukshma sharirasya varnanam- description of subtle body, Atma manasoh sambandhah- relation between Manas and Atma.
19. Antah karana chatushtaya (the four internal faculties).
20. Importance of Dhi, Dhriti and Smriti- importance of intellect, retention power and memory.
21. Role of manas in achieving Tri eshana and Chaturvidha Purushartha/chatur varga- role of manas in attaining the pursuits and four goals of life.
22. Concept of Satyabuddhi, Ritambhara Pragyā and Upadha- concept of true and false knowledge.
23. Concept of Punarjanma, Purvajanmakrita karma, Karmaphala.
24. Manovaha Srotasam Parichaya- Introduction of Manovaha srotas(channels of mind)
25. Manovaha, Samgyavaha, Buddhivaha, Chetanavaha, Chetovaha, Vatavaha, Raktavaha adi upayukta Srotasam Manasroge varnanam- Description of Manovaha, Sangyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha srotas etc in relation to Manasroga
26. Shatchakra nirupanam.
27. Sattvasara purusha- person with mental excellence.
28. Nidravichara- Concept of sleep, Swapna vichara- Concept of dream, Tandravichara - Concept of drowsiness.
29. Concept of manasprakriti- mental temperament, Concept of Manasa bhava in Shareerika prakriti.
30. Manasaroge Manovigyane cha upayukta Paribhashika shabdanam vishleshanam- technical terms used in psychology and psychiatry

31. Manas roge upayukta Samhitanam satika adhyayanam- study of portions of treatises useful in psychiatry along with their commentary.
32. Arvachina mano vigyanasya adhishtana siddhantah, mastishka karmanam sthapanam cha-Fundamentals of modern psychology and functions of brain.
33. Applied Neuro-anatomy and physiology, Neurotransmitters, Psychoneuro immuno endocrinology
34. Manasah swabhavika pratirodhah - Defence mechanism of mind.
35. Shishu manas-shastra, vikasatmaka Manas-shastra – Shishu, Bala, Kumarah, Proudah, Vriddhah cha- Essential elements of psychology, developmental psychology: child, adolescence, adult and aged.
36. Bhava, Sheela, Buddhi, Smriti, Prerakatva adinam gyanam -Concept of Mood, behaviour, attitude, emotions, intelligence, memory, motivation, perception etc.
37. Manas Swasthya Evam Manoroganam Paribhasha – Definition of Mental Health and psychiatric disorders.
38. Manasrogyansya mahatvam, phalam, prayojanam, prabhavashcha

PAPER –II Manovakariki Evam Bhutavidya

Marks

100

1. Manovega, Mano vikarah, ManoDosha, ManaSharirayoh paraspara anuvidhayitvam- mutual symbiosis of sharir and manas, Manasah chanchalatvam, Manaso vyadhinam ashayatvam, Manasrogeshu Doshanam paraspara anubandhah, Manasvyadhi utpattou sharirDoshanam vikarakaritvam, Indriyadinam hinamithyatiyogah. Prajnaparadha, Purva janma krita karma tatha Papa karmasya rogkarakatvam, Adharmasya Achararasayana upekshanasya cha rogkarakatvam.

Bhutavidya – Definition and scope with applied aspects: Divergent views

1. Types and Characteristic features of Bhuta and Graha, Amanushopasarga Vikara caused by Bhuta and Graha, Aetio-pathogenesis of Bhuta and Graha
2. Relationship of Bhuta with Jwara, Ojakshaya, Manovikara, Arishta Lakshana and Daivabala Pravritta diseases.
3. Grahavesha, affecting time of Graha, their specific features, prodromal features and prognosis.
4. Differential understanding of Balagraha and Grahabadha.
5. Sushrut's concept of invasion of Bhuta/Graha.
6. Manas Rognam Nidan, Sampraptischa
7. Manobuddhyadi Vibhramsha
8. Manas dharaniya vega.
9. Kayika-Vachika-Manasika karma hinamithyati yoga in Manasa roga samprapti.

Manovikriti –Psychopathology

1. Bijapradosha and Kulaja bhava in manas roga -Genetics and hereditary factors in Psychiatry.
2. Manas roganam prachya arvachina matanusarena vargikaranam
3. Classification of manas rogas yatha kevalamanas, manas sharir, shariramanasika, agantuja adayah
4. Understanding of Parapsychology and its role in overt psychiatric disorders.
5. Recent ICD and DSM classification

Manas Rogi pariksha vidhi- Psychiatric examination

1. Prachya arvachina matanusarena rogi pariksha visheshena sattva pariksha – Examination of patient according to Ayurvedic and modern methods

2. Trividha Sattva Pariksha
3. Charakokta Anumana Pariksha
4. Manasika avastha Pariksha - Mental Status Examination
5. Vividha pariksha manakah -Different psychiatric assessment inventories like Hamilton's scale, Bech's Depression inventory etc.
6. Manorog chikitsiya manomapaka upakaranani cha - Psychiatric and psychometric tools for diagnosis, Evidence based diagnostic methods.
7. Prayogashaliya pariksha -Investigations- Haematological, biochemical, neuro-physiological, endocrinal, EEG, radio imaging- MRI etc.
8. Manasrognam sadhyasadyata - Prognosis of psychiatric diseases.
9. Manas Rog Sandharbhe Vidhi Vaidyakasya vistrita gyanam.
10. Forensic psychiatry- Knowledge about legal and ethical issues in psychiatry, Indian lunacy act, mental health act, Norms to setup a well equipped Mental Hospital (OPD, IPD)

PAPER – III Manas Roga Chikitsa
100

Marks

Comprehensive knowledge of etiology, demography, underlying psycho pathogenesis, symptomatology, complications, investigations, diagnosis, prognosis and drug-non drug management of following psychiatric disorders as per Ayurvedic-Modern therapeutics with their pharmacodynamics:

1. Unmada (Psychosis)- Nija, Agantuja Unmada, Bhutonmada, Vishaja Unmada, Sutikonmada, Smaronmada, Tattvonmada- Paranoia, Mano dukhaja Unmada - Stress related disorders.
2. Apasmara - seizure disorders
3. Apatantraka - hysterical convulsions
4. Tandavaroga -Chorea
5. Yoshapasmara - conversion disorders
6. Atavabhinivesha- Obsessive compulsive disorders
7. Vishada- Depressive illness
8. Gadodvega -Hypochondriasis
9. Mada, Murchha, Sanyasa- sensorial disorders
10. Madatyaya, Panatyaya (Panavibhrama, Paramada, Panajirna) - Substance abuse disorders.
11. Nidra vikara (Sleep disorders) , Klama, Tandra, Glani.
12. Bhrama, Vibhrama - Delusional disorders.
13. Chittodvega - Generalized Anxiety disorders.
14. Smriti vikara (memory disorders)
15. Manasika klaibya, Sushrutokta Napumsakata
16. Manasa Dosha Vikara- Kama, Krodha, Lobha, Moha, Irshya, Bhaya, Mana, Mada, Dambha, Ahamkara, Harsha, Matsarya, Iccha, Dvesha.
17. Mood and affective disorders - major depressive disorders, mania and their possible Ayurveda co-relates.
18. Schizophrenia
19. Personality disorders
20. Behavioural disorders
21. Organic mental disorders
22. Post traumatic stress disorders
23. Psycho sexual disorders
24. Eating disorders
25. Somatoform and dissociative disorders
26. Senile psychiatric disorders - Dementia, Alzhiemer's disease, Parkinsonism, Menopause, Andropause and their possible Ayurveda co-relates.

27. Adhi- Vyadhi Roganam Manasika Prabhava Chikitsa Cha - Psychosomatic disorder--Bhayaja and Shokaja Atisara, Kamaja and Shokaja Jwara, Tamakashwasa, Prameha, Amlapitta, Parinamashula, Grahani, Uccha Raktachapa(Hypertension), Shula (pain disorders), Twak Vikara.
28. Jirna- Asadhya Sopadrava Vyadhinam Vivechanam - Mental problems in chronic incurable diseases like AIDS, Cancer etc.
29. Mano prakriti vikara - psychopathic personality.
30. Jivana Shaili Tatha mano sammarda janya roga - Life style and stress related disorders.
31. Shishu tatha Kumara Manoroga - Child and adolescent psychiatry.
32. Jadata, Buddhimandya , Adhyayana Akshamata - Mental deficiency, mentally challenged and learning disabilities.
33. Achara vaikalya - Conduct disorders
34. Manobhava vikara - Emotional disorders
35. Cerebral palsy, infantile autism, Attention Deficit Hyperactive disorders, Tourette's disorder with their possible Ayurveda co-relates.
36. Preventive aspects in Manasa Roga - Achara Rasayana, Sadvritta, Shodhana, Rasayana and Vajikarana
37. Manasa Roganam Samanya Vishesha Chikitsa Siddhantanam Varnanam,- Daiva Vyapashraya, Yukti Vyapashraya, Sattvavajaya, Adravyabhuta Chikitsa Upayah.
38. Sattvavajaya Chikitsa: Its application and techniques viz. Dhi, Dhairya, Atma Janya, Kula Janya, Kala Janya, Desha Janya, Bala Janya, Samadhi, Santwana, Ashwasana, Ayurveda Psycho shock therapy viz. Trasana, Bhayadarshana, Adbhuta Darshana, Vismarana, Vismapana and Pratidvandwi Bhava with their scientific basis.
39. Role of Rasayana, Medhya Rasayana, Achara Rasayana and Vajikarana in Manasa Roga
40. Pathyapathya in Manasa Roga.
41. Manasa Rogopayogi Vividha Aushadheenam Vivechanam: Ekamulika (Single drug), Panchavidha Kashaya Kalpana, Rasa Rasayana etc.
42. Brihatrayee, Yogaratnakara, Sharngadhara, Gadanigraha, Bhavaprakasha, Sahasrayoga ukta vividha yoganam vivechanam:Brahmi, Mandukaparni, Vacha, Jatamansi, Yashtimadhu, Shankhapushpi, Kushmanda, Ashwagandha, Kushtha, Tagara, Guduchi, Jyotishmati, Srikhandadichurna,Saraswatachurna etc. Swarna, Swarnamakshika Bhasma, Rajata, Pravala, Mukta, Manahshila, Krishna Chaturmukha Rasa, Krishnachaturbhuj Rasa, Brihatvatachintamani Rasa,Vata kulantaka Rasa, Manasmitra vataka, Smritisagar Rasa, Unmada gajakesari Rasa, Apatantrakari vati,Kumarakalyana Rasa etc. Kalyanaka ghrita, Brahmi ghrita, Mahapanchagavya ghrita, Mahapaishachika ghrita, Mahabhutarava ghrita, Kushmanda ghrita, Purana ghrita, Panchagavya ghrita etc.
43. Saraswatarishta, Ashwagandharishta, Chittachandirasava etc.
44. Himasagara taila, Tungadrumadi taila, Gandharaja taila, Brahmi taila, Sidharthaka agada etc.
45. Dhupa, Nasya, Lepa, Anjana yogas useful in Manasa Roga.
46. Folk Medicine in Manasa Roga.
47. Mano Bhesaja vigyanam - Essentials of Psycho pharmacology, Knowledge of Biological and Pharmacological Therapies in the Management of Various Psychiatric diseases such as hypnotics, sedatives, anxiolytics, mood stabiliser/elevators, antidepressants, antipsychotics, anticonvulsants, Electroconvulsive therapy(ECT) and its applied aspects.
48. Psychological aspects of Disaster Management- Apada evam Manovigyan.

Panchakarma

1. Importance of Panchakarma and other allied procedures in the management of Manasa Roga.
2. Theoretical knowledge and application of the following karmas in Manasa Roga – Snehana, Svedana, Vamana, Virechana, Basti, Nasya, Raktamokshana, Mastishkya-Shiro-Basti, Shiro-Dhara, Shiro-Pichu, Shiro-Abhyanga, Murdhni taila, Anjana, Dhupa, Dhupana etc.

Yoga

1. Manovigyana sandharbhe yogasya vaishishtyam, Yogashastrasya upayogita mahatvam cha-Importance of Yoga in manovigyana. Importance of Yogshastra and its application in manovigyana.
2. Yogasya darshanika svarupagyanasahitam tasya astanganam samichinam Gyanam-Knowledge of Ashtangyoga and its applicability.
3. Ayurveda drishtya yoga adhyayanasya upayogita, Ayurveda shastre pratipaditah yogasya siddhantah.
4. Satvavajaye gyana-bhakti-karma yoganam manasa roge vivechanam-Hatha yogascha- Description of Satyavijaya, Gyan, Karm and bhakti Yoga. Hathyoga and manasvgyan.
5. Role of Shatkarma - Kapalabhati, Trataka etc. in Manasa Roga.
6. Naishthiki chikitsa in Manasa Roga.
7. Therapeutic potential of Yoga, Psycho biological effects of Yoga, Spiritual therapy and Yoga.
8. Pranayama and contemporary yoga practice in Manas Roga.

Other allied therapeutic procedures:

1. Various methods of psychotherapy and counselling techniques, transactional analysis, behavioural therapy, psycho analysis.
2. Swapna Samvahana chikitsa -Hypnotherapy-Past life Regression and Age Regression Therapy in Manasa Roga.
3. Knowledge of psychiatric emergency and their management.
4. Knowledge of surgical intervention in Manasa Roga
5. Recent advances and updates in concepts, drugs and therapeutic procedures in Manasa Roga.

Content of the Practicals

S.No.	Topic	No. of Cases
1.	Hypnotherapy techniques	10
2.	Case Study-	20
	Unmada	20
	Apasmara	20
	Atatvabhinivesh	10
	Chittodvega	25
	Vishada	25
	Madatyaya	10
	Psycho Sexual disorders	25
	Psychogenic headache	20

	Nidra vikara	20
	Stress related disorders	25
3.	Examination of Manasika Bhava in psychosomatic illness	25
4.	Yogasana, Pranayama and Meditation Techniques	25
5.	Panchakarma Procedures in Manasa Roga	25
6.	Anjana, Dhoopanadi Karma	25
7.	Instruments (GSR biofeedback, EST, EEG, etc.)	25
8.	Counselling on the pattern of Sattvavajaya	25
9.	Psychometric scales (Ayurveda and conventional)	30
	Visit to Mental Hospitals	

Pattern of Practical Examination

- 100 Marks

- | | | |
|----|--|------------|
| 1. | Practical Record Book | - 10 Marks |
| 2. | Bed side examination | |
| a. | Short Case | - 10 Marks |
| b. | Long Case | - 25 Marks |
| 3. | Assessment of Scales and inventories (Ayurveda and Conventional) | - 10 Marks |
| 4. | Thesis Presentation(PPT) | - 25 Marks |
| 5. | Viva-voce | - 20 Marks |

Reference Books-

- | | | |
|-----|--|--|
| 1. | Related matter of Charaka, Sushruta and Vagbhata and other ancient texts with commentaries | |
| 2. | Prachin Manovikara Vigyanam | - Ayodhya Prasad Achal |
| 3. | Ayurvediya Padarth Vigyan | - Ranjit Rai Deshai |
| 4. | Ayurved Darshan | - Acharya Rajkumar Jain |
| 5. | Purusha Vichaya | - Prof. V.J. Thakkar |
| 6. | Ayurvediya Manas Vigyan | - Prof. Ram Harsh Singh |
| 7. | Yoga evum Ayurved | - Acharya Rajkumar Jain |
| 8. | Basic principles of Ayurvediya Padartha Vigyan Mishra | - Dr Yogesh Chandra |
| 9. | Synopsis of Psychiatry | - Harold kaplon and Benjamin saddock |
| 10. | Oxford textbook of Psychiatry | - Michael Gerlder, Paul Harrison |
| 11. | General psychology and Abnormal psychology | - S.K. Mangal |
| 12. | A text book of Post Graduate Psychiatry | - Neeraj Ahuja |
| 13. | Mind in Ayurveda and other Indian Traditions | - A.R.V.Murthy |
| 14. | Psychopathology in Indian medicine | - Satyapal Gupta |
| 15. | Body- Mind-Spirit Integrative Medicine | - Prof. Ram Harsh Singh |
| 16. | Rationale of Ayurveda Psychiatry | - Dr. A.R.V. Murthy |
| 17. | Foundations of contemporary Yoga and Yoga Therapy- | Prof. Ram Harsh Singh |
| 18. | Stress and its Management | - Dr. K.N. Udupa |
| 19. | Concept of Mind | - Edited by Prof. C.R. Agnivesh, Kottakkal |

- | | |
|--|---|
| 20. Kayachikitsa
and | - Part 3 by R. R. Pathak
Vidhyadhar Shukla |
| 21. Panchakarma Illustrated
Acharya | - Prof. Shrinivasa |
| 22. Unified Dimensions of Ayurvedic Medicine | - Dr. J.S. Tripathi |
| 23. Essential Psychiatry | - Bhatia MS |
| 24. Sahassrayoga | - Nishteswar and
Vaidyanath |
| 25. Ayurveda and the Mind | - David Frawley |
| 26. Manasa Roga Vijnana | - Balakrishna |
| 27. Comprehensive Textbook of Psychiatry | - Kaplan and Sadock's |
| 28. Psychiatry for medical students | - Robert J Waldinger |
| 29. Introductions to Psychology | - Morgan / King. |

13. RASAYANA&VAJIKARANA

PAPER – 1 Concept & Practice of Rasayana

Marks: 100

1. Basic fundamentals and concepts of Rasayana

- Derivation, definition and synonyms of Rasayana
- Classification of Rasayana
- Understanding rasayana in perspective of:
 - Neutraceutical action.
 - Immunomodulation.
 - Oxygen free radicals & Antioxidant activity.
 - Adaptogens.
 - Cell proliferative activity.
 - Cell regenerative activity.
 - Genoprotective activity.
 - Micronutrients.
 - Anabolic activity.
- Interpretation of different types of Rasayana.
- Prakriti-Guna/character wise Rasayana.
- Sara wise rasayana.
- Dhatu specific rasayana.
- Indriyanusararasayana like netryya, hridya, tvacchya etc.
- Srotas wise rasayana.
- Rasayana for specific occupation.
- Season wise rasayana.
- Molecular biology in relation to rasayana:
 - Human genome project
 - Genetics and Gene therapy
 - Stem cell theories

- Introduction to Bioinformatics.
 - Concept of Bala, types of bala, vriddhikshayahetu.
 - Knowledge of measures to improve bala
 - Concept of ojas. Types of ojas. Ojo-vriddhi-kshaya-karabhava.
 - Ojodustiprakara, hetu, samprapti and their management
 - Immunology
 - Immune system & components
 - Knowledge of immune mechanisms
 - Immune disorders
 - Rasayana as immunomodulator
 - Rasayana – immune specific/immunoglobulin specific
 - Rasayana in Immune compromised disease like, HIV/AIDS, tuberculosis, Cancer, liver cirrhosis etc.
2. Concept of jara (geriatrics) and ageing (gerontology)
 3. Concept of svabhavabalapravrittavyadhi with special reference to Jara; its classification (kalaja & akalaja), etiopathogenesis and management
 4. Organ wise, system wise Common geriatric disorders and their management
 5. Yogya, ayogya, vidhi and prayojana of:
 - Kutipravesika Rasayana
 - Dronipravesika Rasayana
 - Karapratichiya Rasayana
 - Indraprokta Rasayana
 - Vaatatapika Rasayana
 6. Concept & practice of Achararasayana/**Moral and Social code of conduct.**
 7. Knowledge & application of svasthavritta measures.
 8. Swasthyanuvartaka Rasayana.
 9. Rasayana as nutritional supplements.
 10. Panchakarma and its role in Rasayana.
 11. Application of Kamyasayana to achieve - Smriti, Medha, Bala, Prabha, Varna, Svava.
 12. Knowledge of Vayasthaapana/Ayushya Rasayana.
 13. Naimittika Rasayana – Vyadhihara and vyadhiapunarbhava Rasayana.

PAPER – II Concepts and Practice of Supraja and vandhyatva.

Marks: 100

1. Etymology, derivation, definition, synonyms of vandhya, apatya, santaankara, supraja.
2. Importance of fertility.
3. Essentials of fertility.
4. Garbhasambhava samagri.
5. Garbhaadana paricharya.
6. Garbhotpatti.
7. Shukra vriddhi-kshaya hetu, lakshana and chikitsa.
8. Shukrapradoshajavyadhi and its management.
9. Shukradustihetu, prakara, lakshana, diagnosis and management.
10. Retodustiprakara, hetu, lakshana and chikitsa.
11. Sukravahasrotodusti karana, lakshana, diagnosis and management.
12. Disorders of spermatogenesis (etio-pathogenesis, diagnosis and management)
 - a. Oligozoospermia, asthenozoospermia, teratozoospermia, azoospermia, aspermia, pyospermia, necrozoospermia, OAT syndrome, sertoli cell only

syndrome, Klinefelters syndrome, Kallaman's syndrome, Dal-castele's syndrome, etc.

13. Obstructive azoospermia-diagnosis, medical management and knowledge of surgical procedures
14. Retrograde ejaculation and other ejaculatory disturbances in respect to fertility – knowledge, diagnosis and management.
15. Reproductive endocrinal disorders and management.
16. Immunological infertility – knowledge of various components involved in immunological infertility, mechanism, diagnosis and management.
17. Sperm function tests, semen and cervical mucus interaction, post coital test.
18. Karyotyping and interpretation.
19. Chromosomal, genetic disorders pertaining to fertility and management.
20. Practice of Genetic counseling.
21. Normal and abnormal sexual differentiation
22. Applied aspects of Panchakarma in rasayana and vajikarana.
23. Applied aspects of uttarbasti **in infertility**.
24. Supraja (eugenics): preconceptional measures for health progeny.
25. Pumsavana karma for healthy progeny.
26. Introduction to MART (Medically Assisted Reproductive Technologies): IUI, IVF-ET, ICSI, etc.
27. Testicular biopsy – indications, surgical procedure, interpretation of HPE results.
28. Knowledge of cystoscopy – diagnostic, interventional.
29. Scrotal scan & Doppler.
30. Varicocele: diagnosis, medical and surgical management.
31. Disorders of accessory sex glands and their management.

PAPER – III Concepts and Practice of Vajikarana

Marks: 100

1. Etymology, derivation, definition, scope and understanding of word vajikarana and its application in present scenario.
2. Physiology of sexual act including mechanism of erection, ejaculation and orgasm.
3. Hypothalamo-pituitary-testicular axis.
4. Psycho-neuro-endocrino-vasculogenic mechanism of sexual activity.
5. Haemodynamics and different stages of erection.
6. Psychological aspects of sexual functions.
7. Sukrottejakabhava. Factors influencing sexual function.
8. Sukrasrutikarabhava.
9. Erogenous zones and lunar relationship.
10. Maithunavidhi –asthangamaithuan, rules and regulations to have intercourse as per ritu, kala, gotra, kula etc.
11. Concept of Brahmacharya & its application in the present context.
12. Sexual ethics.
13. Myths & misconcepts regarding sex & sexuality.
14. Sex education & counseling including pre- marital counseling.
15. Knowledge of contraception and contraceptives.
16. Knowledge of sukratavata/sukrasthavata, sukravrita vata.
17. Klaibya – definition, nidana, prakara, spamprapti, and chikitsa
18. Male Sexual dysfunctions (etio-pathogenesis, diagnosis & management)
 - a. Disorders of sexual desire (increased libido, decreased libido, no desire etc.)
 - b. Erectile dysfunction(psychological, endocrinological, neurological & vasculogenic).
 - c. Ejaculatory disturbances (early, delayed, anejaculation, retrograde ejaculation).

- d. Orgasmic disorders (anorgasmia).
- 19. Female sexual disorders, causes, diagnosis and management
- 20. Knowledge of various sexual postures and advantages
- 21. Napumsaka, shanda, trinaputrika, vaarta, hermaphroditism – definition, classification, samprapti, clinical manifestation, diagnosis and management.
- 22. Knowledge of paraphilia, abnormal sexual behavior, perversions and management.
- 23. Knowledge of diagnostic aids pertaining to sexual disorders:
 - a. ICIVAD (Intra Caverosal Injection of Vaso Active Drugs)
 - b. Vacuum erection devices.
 - c. Penile vibrators.
 - d. Rigi scan NPT (Nocturnal Penile Tumescence)/snap gauge test.
 - e. Penile biothesiometer.
 - f. Penile Doppler.
- 24. Knowledge of Dhat syndrome, night emissions.
- 25. Mutrasukra, shukrashmari, sukrameha.
- 26. Aharsha & apraharshabhava.
- 27. Knowledge of Sexual performance assessment scales: MSP, GRISS, GRIMS, HARDS, Libido score, IIEF-5 scoring system for ED, Androgen deficiency score.
- 28. Priapism and its management.
- 29. Theories of andropause and management.

PAPER – IV Pharmaco-Therapeutics of Rasayana & Vajikarana

Marks: 100

1. Definition, derivation, etymology, synonyms of vajikara, vrishya.
2. Pharmacology and pharmacodynamics of rasayana and vajikarana drugs.
3. Definition, scope and understanding of:
 - a. Rasayana
 - i. Vyadhibalavirodhi
 - ii. Vyadyutpadakapratibandhak
 - iii. Vayasthapan
 - b. Sukrajanaka/sukrala
 - c. Sukrapravarthaka/rechaka
 - d. Shukrashodhana
 - e. Shukrastambhaka
 - f. Sukrashoshaka, vyavayi/vikashi
 - g. Kamoddeepana/kamottejaka etc.
4. Pharmacology of drugs belonging to:
 - a. Sukrajanaka/sukrala
 - b. Sukrapravarthaka/rechaka
 - c. Shukrashodhana
 - d. Shukrastabhaka
 - e. Sukrashoshaka, vyavayi/vikashi
 - f. Kamoddeepana/kamottejaka etc.
5. Pathya and apathya in relation to shukradhatu
6. Formulation, indications & uses of various Vasis in Vajikarna such as: Vrishyabasti, Vajikaranaabasti, Yapanabasti, etc.
7. Pharmacology of:
 - a. Akarakarabha,
 - b. Amalaki,
 - c. Aswagandha,
 - d. Bhallataka,
 - e. Bhang,
 - f. Bhrihati,
 - g. Gokshura,
 - h. Guduchi,
 - i. Haritaki,

- j. Ikshu,
- k. Jatiphala,
- l. Jivanti,
- m. Kapikacchu,
- n. Kokilaksha,
- o. Ksheeravidari,
- p. Mandukaparni,
- q. Masha,
- r. Punarnava,
- s. Shatavari,
- t. Svetamusalī,
- u. Yastimadhu etc.
- v. Indraprokta Rasayanaa

8. Pharmacology of following Rasaushadhis:

- a. Abhraka,
- b. Naga,
- c. Rajata,
- d. Shilajit,
- e. Svarna,
- f. Svarnamakshika,
- g. Vanga,
- h. Yashada
- i. Loha, etc.

9. Ingredients, properties, indications and phalasaruti of:

- Agasthya Rasayanaa,
- Ajamamsa Rasayanaa
- Akarakarabhadvati,
- Amrita Prasha Gritha,
- Aswagandha Gritha,
- Avalguja Rasayanaa
- Balaswagandha Taila,
- Bhallathaka Rasayana,
- Brahma Rasayana,
- Brihatcchagalladyagritha
- Chandraprabhavati,
- Chyavanaprasha,
- Gokshuradi Guggulu,
- Haritakyadi Rasayana,
- Jatiphaladi Vati,
- Kaminividravana Rasa,
- Khadira Rasayana,
- Kushmanda Rasayanaa
- Lasuna Rasayana,
- Mahamasha Taila,
- Makaradhwaja,
- Nagabala Rasayana,
- Narasimha Rasayanaa,
- Pippali Vardhamana Rasayanaa,
- Pippali Rasayana,
- Purnachadrodaya Makaradhwaja,
- Shatavari Ghrita,
- Shilajatu Rasayana,
- Siddha Makaradhwaja,
- Srigopala Taila,
- Vanari Gutika
- Vasantakusumakara rasa,
- Veeryastambha Vati,

- Vidanga Rasayana,
 - Vidaryadi Ghrita,
 - Vrishya Ghrita
10. Pharmacology & Pharmacodynamics of various vajikara, vrishya and rasayana vasti.
 11. Neuro-psycho pharmacology of rasayana, vajikarna drugs.
 12. Endocrinological aspects of rasayana,vajikarana drugs, prajasthapak and Shukravardhak/shodhak drugs..
 13. Recent advances in rasayana and vajikarana drugs, formulations and therapeutic techniques.

PRACTICALS

1. Assessment of Prakriti.
2. Assessment of saara.
3. Assessment of manasaprakriti.
4. History taking & clinical examination of geriatric patients.
5. Examination of male genito-urinary system.
6. Semen analysis- Retopariksha.
7. Post coital test, semen & cervical mucus interaction test.
8. Technique of ICIVAD.
9. Uttarbasti.
10. Technique of psychosexual counseling.
11. Applicatory knowledge of assessment scales pertaining to vajikaranaa/sexual functions.
12. Technique of genetic counseling.
13. Practical aspects of Panchakarma pertaining to rasayana & vajikarana.
14. Technique of measuring penile BP.

PRACTICALS -100 Marks

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.**Publication or acceptance of One Scientific paper based on Thesis Research preferably in indexed/peer reviewed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.**

Clinical Ability Evaluation-60 marks based on

- | | |
|--|-----------|
| 5. Case records of 40 IPD Patients in Detail | 10 marks |
| 6. Long case History-1: | 20 Marks |
| 7. Short Case history-1 : | 10 Marks |
| 8. Medical procedures demonstration | 20 Marks. |

Academic Competence evaluation- 40 marks based on:

- | | |
|--|-----------|
| 3. Viva | 30 Marks. |
| 4. Teaching and communication skills/ Thesis presentation in PPT /: | 10 |

Marks.

Reference Books:

.....

1. Relevant portions of Brihatrayi and Laghutrayi with commentaries
2. Ayurvediya Nidana- Chikitsa Siddhanta - Prof. R.H.Singh.
3. Kayachikitsa Vol. 1 and 2 - Prof. R.H.Singh.
4. The Holistic Principles of Ayurvedic Medicine - Prof. R.H.Singh.
5. Kayachikitsa Vol. I-IV. - Prof. Ajay Kumar Sharma
6. Panchakarma Therapy - Prof.R.H.Singh
7. Panchakarma Illustrated -Prof.G.Shrinivasa Acharya
8. Practice of Ayurvedic Medicine(Kayachikitsa) -Prof.A.K.Tripathi
9. Nidanachikitsa Hastamalaka - Prof. R.R.Desai
10. Clinical Methods in Ayurveda - Prof. K.R. Srikantamurthy
11. Aushadhi Gunadharm Shastra - Gangadhar shastri Gune
12. Davidson's Principles and Practice of Medicine.
13. Rasayan and Vajikarana by Dr.O.P.Upadhaya.
14. Rasayan and vajikarana by Dr. Singla.
15. Harrison's Text Book of Medicine.
16. Cecil Text Book of Medicine.
17. Relevant texts of concerned subjects.

.....

.....

14. SHALYA TANTRA - SAMANYA

PAPER - I Shalya Siddhanta – Fundamentals of Surgery

100

Marks

1. Sushruta's contributions in surgical concepts and practices.
2. Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
3. Significance and importance of Rakta as the Chaturth Dosha.
4. Yantras and Shastras – Surgical Instruments - Ancient and recent advances.
5. Trividha Karma – Purva, Pradhana and Pashchat Karma and their Importance.
6. Asepsis and Antisepsis.
7. Nirjivikarana – Sterilization – Various methods for surgical equipments, endoscopies, linen and Operation theatre.
8. Surgical infections – Sepsis, Tetanus and Gas gangrene.
9. Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12. Concept of Marma and their clinical application.
13. Shock - Its varieties and management.
14. Raktasrava / Haemorrhage – Types, Clinical features and Management.
15. Concept of Raktastambhana –Haemostasis.
16. Blood Transfusion – Blood groups, compatibility, Indications, Contraindications and complications with management.
17. Fluid, electrolyte, Acid Base Balance and Nutrition
 - i. Introduction of physiology of fluids and electrolytes.
 - ii. Dehydration and over hydration.
 - iii. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
 - iv. Electrolyte changes in specific surgical conditions and their management.
 - v. Plasma volume expanders and their use in surgical condition.

- vi. Various replacement fluids in surgery, mode of administration and complications.
 - vii. Nutrition – Indications, types, mode of administration and complications.
18. Vranasopha – Inflammation and Vidradhi - Abscess
 19. Granthi – Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.
 20. Gulma and Udara Roga.
 21. Kshudra Roga.
 22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II Vishishta Shalya Vigyana - Shalya Tantra Speciality
Marks

100

1. Yogya Vidhi - Practical and Experimental training
 - i. Practice of surgical procedures on different models.
 - ii. Training of Laproscopic and Endoscopic procedures.
2. Vrana – Wound management
 - i. Management of Nija Vrana, Agantuja Vrana, Dushta Vrana and Nadi Vrana.
 - ii. Vrana Chikitsa – Shasti upakramas, Pathya-apathya .
 - iii. Types and Management of Dagdha Vrana - Burns and scalds.
 - iv. Infection of hands and foot, Diabetic wound, Prameha Pidaka – Diabetic carbuncle and its management.
 - v. Management of Pressure ulcers, Venous ulcers and other chronic non-healing ulcers.
 - vi. Gangrene and its management.
3. Mutra Roga – Urological diseases.
 - i. Applied anatomy and physiology of urogenital system.
 - ii. Investigations of Mutravaha Srotas – Urinary tract.
 - iii. Aetiopathogenesis and surgical procedures of Ashmari – Urinary stone diseases.
 - iv. Kidney and ureter – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis and Hydroureter.
 - v. Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginal fistula, Atony and Schistosomiasis.
 - vi. Urethra - Clinical presentation, Investigations and Management of Congenital anomalies – Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection, and Neoplasm.
 - vii. Prostate and seminal vesicles – Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.
 - viii. Penis – Clinical presentation, Investigations and Management of Congenital anomalies , Trauma, Infection, Phimosis, Paraphimosis, Peyronie’s disease and Neoplasm.
 - ix. Testis and scrotum - Clinical presentation, Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spermatocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier’s gangrene.
 - x. Urinary diversions- Indications, types and techniques.
 - xi. Retention of urine – Mutraghata and Mutrakruccha- Etiology, diagnosis and management.
 - xii. Saraktamutra, Haematuria - Etiology, Clinical features and management.

xiii. Renal failure – Causes, Diagnosis, Investigations and Management.

4. Asthi roga and Marma Chikitsa - Orthopaedics
 - i. Anatomy and physiology of bone.
 - ii. Diseases of Asthi / Bone and Sandhi / Joints – Congenital, Degenerative, Infective, Metabolic and Neoplastic Disorders of Bones and Joints.
 - iii. Aetiopathogenesis, treatment along with surgical procedures of Bhagna - Fracture, Sandimoksha - Dislocation and bone grafting.
 - iv. Diseases of Spine, vertebral column and spinal cord.

PAPER – III Adhunik Shalya Karma - Modern surgery

100

Marks

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and Surgical treatment of head and spine injury, thoracic and abdominal trauma. Blast injuries and Management
3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies.
4. Diagnosis and Surgical management of breast diseases- Benign and Malignant breast tumours.
5. Diagnosis and Surgical measures of diseases of Gastrointestinal system -
 - i. Oral cavity - Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer.
 - ii. Oesophagus - Oesophageal varices, Dysphagia, Neoplasm, Strictures and Gastro oesophageal reflux.
 - iii. Stomach and duodenum –Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation ,Hiatus hernia and Foreign bodies.
 - iv. Pancreas - Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas.
 - v. Peritoneum, Omentum, Mesentery, Retroperitoneal Space – Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis.
 - vi. Abdominal mass - Diagnosis and Management.
 - vii. Small intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron’s disease, Carcinoid tumours, Enteric perforation and Intestinal fistula.
 - viii. Large intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Faecal fistula, Amoebic ulcer and Familial polyposis coli.
 - ix. Caecum and Vermiform appendix- Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm.
 - x. Gastrointestinal bleeding – Haemetemesis, Malaena, Haemobilia, Bleeding per anum - Causes, Diagnosis and Management.
 - xi. Rectum and anal canal - Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorrhoids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies, Sacrococcygeal Teratomas and Pilonidal sinus .

6. Umbilicus and abdominal wall – Congenital anomalies, Umbilical infections, Sinus, Neoplasm, Abdominal dehiscence, Divarication of recti, Desmoid tumor and Meleney’s gangrene.
7. Diagnosis and surgical measures of diseases of Hepatobiliary system -
 - i. Liver – Abscess, Cyst - Hydatid cyst, Primary and Secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome.
 - ii. Gall bladder and Bile duct - Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholithiasis, Choledochal cyst and Cholangiocarcinoma.
 - iii. Spleen – Splenomegaly and Splenic Injury.
8. Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.
9. Diagnosis and surgical management of Hernias – Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.
10. Endoscopic procedures - Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
11. Diagnostic and therapeutic laparoscopy.
12. Anaesthesia - Definition, Types, Anesthetic agents, Indications, Contraindications, Procedures, Complications and management.

PAPER –IV Shalya Vangmaya – Shalya literature, Research and Development

1. Critical study of the Sushruta Samhita and relevant portions of Shalyatantra in Brihatrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act in medical profession, National Health Policy, Implications in medico-legal cases like accidents, assaults etc.
4. Surgical ethics including Informed consent.
5. Knowledge of different type of experimental Surgical Model for Research in Surgery.
6. Sandhana Karma – Plastic reconstructive and cosmetic surgery. Fundamentals of Sandhana Karma –
 - i. Karna Sandhana – Auroplasty
 - ii. Nasa Sandhana – Rhinoplasty
 - iii. Ostasandhana – Cheiloplasty
 - iv. Grafts and Flaps – Techniques and applications.
 - v. Vascular anastomosis and grafts.
7. **Anushalya Karma** – Parasurgical procedures
 - i. Kshara Karma, Kshara Sutra, Agnikarma and Raktamoskhana.

Pattern of Practical examination

100 Marks

- | | |
|--|------------|
| 1. Case record (25) | -10 Marks |
| 2. Short case | -10 Marks |
| 3. Long case | -20 Marks |
| 4. Identification of specimen / radiograph and Instruments | -20 Marks |
| 5. Thesis Presentation | - 20 Marks |
| 6. Viva-voce | -20 Marks |

Reference Books

1. Sushruta Samhita

2. Ashtanga Sangraha
3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
9. Shalya Pradeepika - Dr. Mukund Swaroop Verma
10. Sushruti - Dr. Ram Nath Dwivedi
11. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
12. Bhagna Chikitsa Deshpande - Dr. Prabhakar Janardhan
13. Kshara sutra management in anorectal ailments - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh.
14. Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
15. Adhunka Shalya Chikitsa Siddhanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhanta - Dr. K.K.Takral
18. Recent advances in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
19. Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyasa
20. Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
21. Leech application in Ayurveda - Dr. M. Bhaskar Rao
22. Kshara Sutra - Dr. S.N.Pathak
23. Shalya Shalakyata Tantra - Vd. S.G. Joshi
24. Surgical ethics of Ayurveda - Dr. D.N. Pande
25. Text book of Surgery - Sabiston
26. Operative Surgery - Rob and smith
27. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell
28. Fractures and Joint Injuries - Watson-Jones
29. Text books of Operative Surgery - Farquharsons'
30. Principles of Surgery - Schwartz
31. Emergency Surgery - Hamilton Bailey's
32. Surgical pathology - Willing Worth
33. Clinical methods in surgery - S. Das
34. Textbook of Operative Surgery - S. Das
35. Shalya Vigyan (Sachitra) - Anantram Sharma
36. Anushastra Karma - Dr. D.N. Pande
37. Concept of Vrana in Ayurveda - Dr. Lakshman Singh
38. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
39. Sangyahan Prakash - Dr. D.N. Pande
40. A concise Text Book of Surgery - S. Das
41. A manual on Clinical Surgery - S. Das
42. A System of Surgical Diagnosis - T.N. Patel
43. A Practical Guide to Operative Surgery - S. Das
44. Drugs and Equipment for Anaesthesia - Arun kumar
45. Manual of Surgical Instruments - M.M. Kapur
46. Ward Procedures - Patel Mansukh. B
47. Recent trends in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
48. Primary Anaesthesia - Maurice King
49. Synopsis of Anaesthesia - Lee
50. Clinical Anatomy/ Surgical Anatomy - John E.Skandalakis

51. Surgical Instruments of the Hindus - Girindharnath Mukopadyay
52. Outline of Orthopedics - John Crawford Adams and David Hamblen. L
53. Outline of Fracture - John Crawford Adams
54. Recent trends in the management of Bhagandara / Fistula-in-ano - Dr. P. Hemantha Kumar
55. Principles and Practice of Agnikarma - Dr. Anand Kumar and Dr. Kanchan Shekokar.
56. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

15. SHALYA – KSHARA EVUM ANUSHAstra KARMA

PAPER - I Shalya Siddhanta – Fundamentals of Surgery

100

Marks

23. Sushruta's contributions in surgical concepts and practices.
24. Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
25. Significance and importance of Rakta as the Chaturth Dosha.
26. Yantras and Shastras – Surgical Instruments - Ancient and recent advances.
27. Trividha Karma – Purva, Pradhana and Pashchat Karma and their Importance.
28. Asepsis and Antisepsis.
29. Nirjivikarana – Sterilization – Various methods for surgical equipments, endoscopies, linen and Operation theatre.
30. Surgical infections – Sepsis, Tetanus and Gas gangrene.
31. Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
32. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
33. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
34. Concept of Marma and their clinical application.
35. Shock - Its varieties and management.
36. Raktasrava / Haemorrhage – Types, Clinical features and Management.
37. Concept of Raktastambhana –Haemostasis.
38. Blood Transfusion – Blood groups, compatibility, Indications, Contraindications and complications with management.
39. Fluid, electrolyte, Acid Base Balance and Nutrition
- viii. Introduction of physiology of fluids and electrolytes.
- ix. Dehydration and over hydration.
- x. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
- xi. Electrolyte changes in specific surgical conditions and their management.
- xii. Plasma volume expanders and their use in surgical condition.
- xiii. Various replacement fluids in surgery, mode of administration and complications.
- xiv. Nutrition – Indications, types, mode of administration and complications.
40. Vranasopha – Inflammation and Vidradhi - Abscess
41. Granthi – Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.
42. Gulma and Udara Roga.

43. Kshudra Roga.
44. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II Vishista Anushastra Karma
Marks

100

1. Kshara Karma and Prayoga – Therapeutic Chemical Cauterization.

- i. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management.
- ii. Preparation and standardization of Kshara sutra and Kshara Picchu- their application and complications.
- iii. Surgical Anatomy and Physiology of Anus and Rectum.
- iv. Arshas - Nidana, Purvaroop, Roopa, Samprapti, Prakara and Chikitsa.
- v. Haemorrhoids - Aetio-pathogenesis, types and its surgical management.
- vi. Gudavidradhi - Nidana, Purvaroop, Roopa, Samprapti, Prakara and its Chikitsa.
- vii. Anorectal abscesses – Aetio- pathogenesis, types, complications and its surgical management.
- viii. Other methods of treatment of Haemorrhoids like Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques.
- ix. Bhagandara - Nidana, Samprapti, Prakara, Doshanusarachikitsa and application of Kshara Sutra.
- x. Fistula-in-ano - Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical, Para Surgical Management including knowledge of Fibrin Glue, Advanced Flap Therapies and other recent techniques.
- xi. Parikartika - Nidana, Samprapti and its Chikitsa.
- xii. Fissure-in-ano - Aetio-pathogenesis, types and its surgical management.
- xiii. Sannirudhaguda and its Chikitsa.
- xiv. Anal Stenosis - Aetio-pathogenesis and its surgical management.
- xv. Anal Incontinence - Aetio-pathogenesis and surgical management.
- xvi. Gudagatashalya – Diagnosis and its Management.
- xvii. Foreign body in rectum and anal canal - Method of diagnosis and its management.
- xviii. Congenital Anorectal disorders and its surgical management.
- xix.** Gudaarbuda and Granthi and its Chikitsa.
- xx.** Anorectaltumour - Types and its surgical management.

2. Agnikarma – Therapeutic cauterization

- i. Introduction, definition and importance of Agnikarma.
- ii. Agnikarma - Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications.
- iii. Diagnosis and management of burn, Dhumopaghata, Ushnavata, Sunburn, Frost bite and Electric burn.
- iv. Knowledge of modern thermal equipment - Diathermy, Laser therapy, microwave, Ultrasonic technique, Cryo Technique and its uses.
- v. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions.

3. Raktamokshana – Bloodletting Procedures

- i. Rakta- Importance, Formation, Panchabhoutikatva, RaktaSthana, Guna, Prakurta Karma and Rakta Sara Purashalakshanas. Suddha and Dushta Rakta Lakshanas. Rakta Pradoshaja Vyadhis.
- ii. Introduction and importance of Raktamokshana.
- iii. Indication and contraindication of Raktamokshana.
- iv. Justification of usage of different types of Raktamokshana in various therapeutic applications.
- v. Different types of Raktamokshana – Shastrakritha - Siravyadhana, Prachana and Ashastrakritha - Shringa, Jaluka, Alabu and Ghati.
- vi. Jalauka - Nirukti, Paryaya, Bhedha, Samgrahana, Samrakshana, Jalaukavacharana Vidhi - Poorva, Pradhana and Paschat karma.
- vii. Knowledge of Leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.

PAPER – III Adhunika Shastra Karma - Modern Surgery

100

Marks

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and surgical measures for disorders of vein, artery, ligaments, joints and muscles.
3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid tumours, etc.
4. Diagnosis and Surgical management of breast diseases.
5. Diagnosis and surgical management of traumatic disorders - Head injury, thoracic and abdominal trauma.
6. Diagnosis and surgical management of diseases of Gastrointestinal system- stomach, pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small intestine, large intestine and vermiform appendix.
7. Diagnosis and surgical management of Proctological disorders.
8. Diagnosis and surgical measures of diseases of Hepatobiliary system - Liver, gall bladder, bile ducts.
9. Diagnosis and surgical management of diseases of the spleen
10. Diagnosis and surgical management of diseases of the Urogenital system.
11. Diagnosis and surgical management of diseases of scrotum and testis. – Hydrocele, Ectopic testis and Undescended testis.
12. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.
13. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
14. Diagnostic and therapeutic laparoscopy.
15. Minimal Access Surgery- Nadi Yantra and their applications and minimal Access surgery, laproscopic anatomy of abdomen, diagnostic laproscopy, principles of diathermy, pre and post operative management of laproscopic cases, Laproscopic instruments, clips, staplers and port types, Recognition and management of laproscopic complications, Use and dangers of diathermy, Endoscopic suturing devices. Use and dangers of laser and other energy sources. Advanced instrumentation in laproscopic surgery. Harmonic scalpel.
16. Anaesthesia - Definition, Types, Anaesthetic agents, Indications, Contraindications, Procedures, Complications and Management.

1. Thorough study of the Sushruta Samhita including other relevant portions of Brihatrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Value of research and teaching in surgery.
4. Medico legal issues - Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act in medical profession, National Health Policy - Implications in a medico-legal case like accidents, assaults etc.
5. Surgical ethics including Informed consent.
6. Knowledge of different type of experimental Surgical Model for Research in Surgery.

Pattern of Practical examination

100 Marks

- | | |
|---|-----------|
| 7. Case record (25) | -10 Marks |
| 8. Short case | -10 Marks |
| 9. Long case | -20 Marks |
| 10. Identification of specimen / radiograph and Instruments | -20 Marks |
| 11. Thesis Presentation | -20 Marks |
| 12. Viva-voce | -20 Marks |

Reference Books

- | | |
|---|-------------------------------|
| 57. Sushruta Samhita | |
| 58. Ashtanga Sangraha | |
| 59. Ashtanga Hridaya | |
| 60. Charaka Samhita | |
| 61. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 62. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 63. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 64. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 65. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 66. Sushruti | - Dr. Ram Nath Dwivedi |
| 67. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 68. Bhagna Chikitsa
Deshpande | - Dr. Prabhakar Janardhan |
| 69. Kshara sutra management in anorectal ailments
K.R.Sharma
and Dr. Kulwant Singh. | - Dr. S.K. Sharma, Dr. |
| 70. Anorectal diseases in Ayurveda
Kumar Chowdary. | - Dr. Sizoria and Dr. Praveen |
| 71. Adhunik Shalya Chikitsa Siddanta | - Dr. Katil Narshingham Udupa |
| 72. Agnikarma Technology Innovation | - Dr. P.D. Gupta |
| 73. Shalya Tantra Ke Siddhant | - Dr. K.K.Takral |
| 74. Recent advances in the management of
Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 75. Arsha Evum Bhagander Mein sutra Avacharan | - Vd. Kanak Prasad Vyas |
| 76. Recent advances in Kshara Sutra | - Dr. M. Bhaskar Rao |
| 77. Leech application in Ayurveda | - Dr. M. Bhaskar Rao |
| 78. Kshara Sutra | - Dr. S.N.Pathak |
| 79. Shalya Shalaky Tantra | - Vd. S.G. Joshi |
| 80. Surgical ethics of Ayurveda | - Dr. D.N. Pande |
| 81. Text book of Surgery | - Sabistan |

- | | |
|---|--|
| 82. Operative Surgery | - Rob and smith |
| 83. Bailey and Love's Short Practice of Surgery
Charles.V. Mann and R.C.G. Russell | - Norman.S. Williams, |
| 84. Fractures and Joint Injuries | - Watson-Jones |
| 85. Text books of Operative Surgery | - Farquharsons' |
| 86. Principles of Surgery | - Schwartz |
| 87. Emergency Surgery | -Hamilton Bailey's |
| 88. Surgical pathology | - Willing Worth |
| 89. Clinical methods in surgery | - S. Das |
| 90. Textbook of Operative Surgery | - S. Das |
| 91. Shalya Vigyan (Sachitra) | - Anantram Sharma |
| 92. Anushastra Karma | - Dr. D.N. Pande |
| 93. Concept of Vrana is Ayurveda | - Dr. Lakshman Singh |
| 94. Significance for Poorva Karma in Surgical Patient | - Dr. Lakshman Singh |
| 95. Sangyahan Prakash | - Dr. D.N. Pande |
| 96. A concise Text Book of Surgery | - S. Das |
| 97. A manual on Clinical Surgery | - S. Das |
| 98. A System of Surgical Diagnosis | - T.N. Patel |
| 99. A Practical Guide to Operative Surgery | - S. Das |
| 100. Drugs and Equipment for Anaesthesia | - Arun kumar |
| 101. Manual of Surgical Instruments | - M.M. Kapur |
| 102. Ward Procedures | - Patel Mansukh. B |
| 103. Recent trends in the management of
Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 104. Primary Anaesthesia | - Maurice King |
| 105. Synopsis of Anaesthesia | - Lee |
| 106. Clinical Anatomy/ Surgical Anatomy | - John E.Skandalakis |
| 107. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 108. Outline of Orthopedics
David | - John Crawford Adams and
Hamblen. L |
| 109. Outline of Fracture | - John Crawford Adams |
| 110. Recent trends in the management of
Bhagandara / Fistula-in-ano | - Dr. P. Hemantha Kumar |
| 111. Principles and Practice of Agnikarma | - Dr. Anand Kumar and
Dr. Kanchan Shekokar. |
| 112. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |
| 113. A manual of Kshara Sootra Karma | - Prof. Ramesh Chand Arya |

16. AYURVED DHANVANTRI - ASTHI SANDHI AND MARMAGAT ROGA

(ORTOPEDICS AND TRAUMATOLOGY)

Paper – 1 ASTHI SANDHI MARMA ABHIGHAT SIDDHANTA
marks

100

1. Asthi Sharira - Etymology, Embryology, Applied Anatomy and Physiology of Asthi. Its Panchbhautik constitution, Poshan (Nutrition), Asthivaha Srotas, Upadhatu and Mala. Total Number and classification of Asthi. Concept of Dhatwagni in Ayurveda. Asthi Dhatu Kshaya and Vriddhi lakshana. Knowledge about Tarunasthi. Embryology, Ossification, Histology, Metabolism, Blood Supply, Types and Biomechanics of Bone and cartilage.

2. Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.
3. Sandhi Sharira – Classification, Applied Anatomy and Physiology of Sandhi. Classification, Applied Anatomy and Physiology of Joints and Healing Mechanism of a joint.
4. Marma Sharira – Basic concept of Marma, etymological derivation, definition, classification, Pramana, importance & applied aspect of individual Marma. Interpretation of each Marma in present context (*Regional surgical anatomy*). Detailed description of Tri-Marma and Rogamarga. Prognosis of Marmaghata.
5. Sira, Dhamni, Lasika, and Snayu Sharira - Applied Anatomy and Physiology of Vessels, Lymphatics, Ligaments, Tendons, Muscles, Peripheral Nerves and Plexuses.
6. Vrana Vigyan – Etiology, classification, symptomatology, prognosis, complications and management principles of Nija and Sadyo Vrana. Knowledge of Shashti Upakrama, Seevana (Suturing) and Vrana Bandhana (Bandaging). Wounds and Ulcers – Etiology, classification, symptomatology, complications, prognosis and management principles. Advanced wound closure techniques, suture materials, dressing / bandaging materials and techniques. Wound Healing Mechanism and Factors influencing wound healing.
7. Vranitopasniya - Management of Vranita (Wounded person). Management Principles of wounded persons. Assessment and immediate management of poly-trauma patient , crush syndrome and Acute Respiratory Distress Syndrome.
8. Vranashotha and Vidradhi - Inflammation and Abscess – Etiology, Pathogenesis, classification, stages and management.
9. Knowledge of Orthopedic implants (*e.g. wires, screws, plates, nails, pin etc.*) and Instruments, equipments (*e.g. C-arm image intensifier and drill machines etc.*), Splints, Orthotics and Prosthetics.
10. Orthopedic Radiology - Knowledge of Radiological imaging techniques (X-ray, CT Scan, MRI, USG, Radioisotop scanning) in Orthopedics.
11. Disability calculation, Bio-mechanics of gait.
12. Medico-legal aspects in Orthopedics - Handling of Medico- legal cases and issuing of MLCs, Understanding the implications of relevant acts e.g. Consumer Protection Act, Motor Vehicle Act, Right to information Act and other relevant acts in force time to time.
13. Concept of Pain according to Ayurved and Modern Medical science.
14. Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.
15. Knowledge about National Health Policies and relevant guidelines by State Govt. or Govt. of India.

**Paper – II ASTHI SANDHI MARMA GATA VYADHI VISESHA
marks**

100

1. Diseases of Asthi & Asthi Dhatu - Asthigata Vata, Asthivaha srothodushti, Asthi Dhatu Kshaya & Vriddhi, Adhyasthi, Asthi Vidradhi.
 - a. Congenital, Degenerative, Infective, Metabolic, Neoplastic and Miscellaneous Disorders of Bones.
2. Diseases of Sandhi – Sandhigat Vata, Vatarakta, Amavata and Kroshtukashirshaka.

- a. Different diseases of joints – Etiology, classification, and treatment principles.
3. Vata Vikara – Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha.
4. Diseases pertaining to Muscles, Tendons, Ligaments, Fascia and Bursae.
5. Diseases and Congenital anomalies of Spine e.g. Ankylosing spondylitis, Infective conditions, Tuberculosis, Spondylolisthesis, Inter-vertebral Disc Prolapse, Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbrisation etc.
6. Diseases and Congenital anomalies of Cervical Spine
7. Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.
8. Diseases and Congenital anomalies of Hand
9. Diseases and Congenital anomalies of Foot
10. Diseases and Congenital anomalies of Limbs
11. Orthopedic Neurological Disorders. Post Polio Paralysis & Cerebral Palsy.
12. Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi.
13. Yogic Practices in Orthopedics.
14. Principles of Arthroplasty- Joint Replacement.
15. Introduction of Peripheral Vascular Diseases.
16. Pediatric Orthopedics
17. Orthopedic Oncology
18. Introduction of Radiotherapy, Chemotherapy, Hormone Therapy, Immunotherapy and gene therapy.

**Paper – III Abhigata Vigyan – Traumatology
marks**

100

1. Bhagna - Etiology, classification, General Management principles and Prognosis.
2. Modern concept of Bone and Joint injuries - Etiology, Epidemiology, Classification and General management principles.
3. Individual Bone and Joint injuries - Etiology, Epidemiology, Classification and management principles.
4. External immobilization techniques - Classical and traditional Kusha -splints, Plaster of Paris Technique, Knowledge of different splints and Plasters
5. Pathological Fractures including Fragility fractures, Stress Fractures and Peri-prosthetic Fractures.
6. Fractures in Children – Etiology, Epidemiology, Diagnosis, management and complications.
7. Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkman's ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.
8. Rehabilitation of trauma patient and Principles of Sukhchestaprachara - Physiotherapy and its use in skeletal injuries
9. Treatment Principles of Asahanta Bhagna - Non-unions, Vishmolvana Sahanta - Malunions and Ignored or un-reduced dislocations.
10. Diagnosis and management principles of injuries of Vessels, Nerves, Tendons and Ligaments.
11. Head, Chest and Abdominal Injuries and management principles.
12. Pelvis and Spine injuries and their management principles.
13. Sports Medicine – Sports medicine and sports related Shoulder injuries, Elbow injuries, Knee injuries, Ankle Injuries, Recurrent Dislocations and other sports related injuries.
14. Knowledge of Marma Chikitsa like Kalari Marma - Martial Art, Adankal - Marmaghata Chikitsa in Siddha Marma in trauma and sports medicine.

1. Agropharniya Vigyan – Knowledge about Pre-operative preparation and Post operative care, Operation Theatre and its requirements regarding Instruments / Equipments and Personnel.
2. Fumigation of Operation Theatre and sterilization of Instruments, Equipments, Linen and Implants by various techniques.
3. Anu Shalya Karma (Para surgical procedures) in orthopedics – Role of Kshara Karma, Agni Karma, Raktavsechana in orthopedic disorders.
4. Knowledge of various Implants regarding their material, types, mechanics and practical use.
5. Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.
6. Knowledge of Plastic Surgery in orthopedics and Bone grafting techniques.
7. Knowledge of various surgical procedures being done for Different Bone and Joint Diseases.
8. Hand Surgery for Diseases, Deformities and Injuries.
9. Foot Surgery for Diseases, Deformities and Injuries.
10. Amputations and Arthrodesis – General Principles of Amputations /Arthrodesis and regional Amputations.
11. Knowledge of Diagnostic and Therapeutic Arthroscopy.

Reference Books

Sushruta Samhita	Relevant Parts
Sushrut Samhita Ghanekar Commentary	
Sushruta Samhita (Dalhana Commentary)	Relevant Parts
Charak samhita	Relevant Parts
Ashtang Hridaya	Relevant Parts
Ashtang Sangraha	Relevant Parts
Bhava Prakash	Relevant Parts
Yog Ratnakar	Relevant Parts
Bhaishajya Ratnavali	Relevant Parts
Sharangdhar Samhita	Relevant Parts
The Surgical instruments of the Hindus	– Girindranath Mukhopadhyaya.
Bhagna Chikitsa (Dr. P.J. Deshpandey)	
Agni Karma – Technological Innovations	- Prof. P.D. Gupta
Shalya Tantra Samuchchaya	- Pandit Ramadesh Sharma
Shalya Vijyan (Part 1-2)	- Dr. Surendra Kumar Sharma
Shalya Samanvaya (Part 1-2)	- Vd. Anantaram Sharma
Shalya Pradipika	- Dr. Mukund Swarup Verma

Adhunika Shalya Chikitsa Siddanta	- Dr.Katil Narshingham Udupa
Shalya tantra Ke Sidhant	- Dr. K.K.Takral
Surgical Ethics in Ayurved	- Dr.G.D. Singhal
Susruta's Contribution to Surgery	- Dr. S. Sankaran
Anushastra Karma	- Dr. D.N. Pande
Concept of Vrana is Ayurved	- Dr. Lakshman Singh
Marma Chikitsa	- Dr. C. Suresh Kumar
Joint Affections and their Ayurvedic Prospective	- Vaidya Vilas M. Nanal
Marma Vimarsha	- Vaidya Vilas M. Nanal
Significance for Purva Karma in Surgical Patient	- Dr. Lakshman Singh
Medical Varmalogy	- Dr. N. Shunmugom et.al.
Siddha Varmalogy	- T. Vasanthakumar
Watson and Jones	- Fracture and Joint Injuries (J.N. Wilson)
Practical Fracture Treatment (R. McRae)	
Clinical Orthopedic Examination (R. McRae)	
Apleys System of Orthopedics (Apley Louis Solomon)	
Orthopedics – Principles & Their Application Vol. I-II (Samuel L. Turek)	
Textbook of Orthopedics and Trauma Vol. I-IV (G.S. Kulkarni)	
Fractures in Adults Vol. I – II (Rockwood and Green's)	
Fractures in Children Vol. I (Rockwood and Wilkins)	
Campbell's Operative Orthopedics Vol. I – IV	
A Concise Text Book of Surgery (S. Das)	
Pye's Surgical Handicraft	
Clinical Methods in Surgery (Sriram Bhatt)	
Clinical Methods in Surgery (S. Das)	
Operative Surgery (S. Das)	
Schwartz Principles of Surgery	
Surgical Exposures in Orthopedics Publication	- J.B. Lippincott Comp.

Pattern of Practical Examination

100 marks

- Discipline and regularity 10 Marks
- Bed side examination
 - Short case 10 Marks
 - Long case 20 Marks
- Identification of specimen / instruments/Radiographs 10 Marks
- Dissertation Presentation 25 Marks

- Viva –Voce

25 Marks

PRACTICAL TRAINING

- Training of History taking, bed side clinical examination and case presentations.
- Identification and demonstration of surgical instruments.
- Training of orthopedic related Diagnostic imaging techniques.
- Training of Local anesthetic techniques in orthopedics.
- P.G. Scholar shall develop the skills by observing, assisting and performing independently the following procedures:
 - Non-operative
 - Manipulative reductions and external immobilization techniques.
 - Application of POP cast, Splints and Braces.
 - Bandaging Techniques
 - External medicaments and Procedures like Snehana, Swedana, Vasti, Kati Vasti, Janu Vasti, Greeva Vasti etc.
 - Training in various massage techniques.
 - Corrective POP casts for club foot & other congenital deformities
 - Operative
 - External fixation of compound fractures
 - Debridement of crush injuries
 - Amputations
 - Internal fixation of common simple fractures
 - Polio surgery such as TA lengthening.
 - Sequestrectomy in chronic osteomyelitis
 - Biopsy from a mass
 - Internal fixation of Fractures.
- Training in Vrana (Wound) Management techniques.
- Practical training of Physiotherapy in orthopedic and trauma patients.
- Training of Anu Shalya Karma like Agni Karma, Kshara Karma and Rakta Mokshna in orthopedic disorders.
- Orthopedic related Panchakarma Procedures.

17. SANGYAHARAN

Paper 1 Sangyahan siddhant avum vangmaya: Literary, Research And Development-100 Marks.

- History of Sangyahan and its development in Ayurveda.
- Importance of anesthesia in Ayurveda.
- Contribution of AAIM and other pioneers in the development of Sangyahan.
- Applied aspects of Ayurveda with respect to sangyahan Vrihatrayee and Laghutryee.
- Instruments for anesthesia in ancient era and their development.
- Rakta, its importance, Raktadhana and Raktstambhana.
- Knowledge of disorders like Unmada, Apasmara, Mada, Murrcha, Sanyasa and Stabdhatata etc.
- Madataya, Stages of Madataya and its management.
- Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and shamana, Svedjanan, Hridyae, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and hrillashar (Antiemetic) dravya as mentioned in Ayurvedic samhita & their application in Sangyahan.

- Aroma therapy as complementary and alternative therapy in pain management and Palliative care.

Paper 2 Sangyahan Bshesaja Vigyan (Pharmacology related to Anesthesia)-100 Marks.

Pharmacology of:

- Drugs acting on Autonomic nervous system:
 - a .Cholinergic system and drugs- Agonist and antagonist
 - b .Adrenergic system and drugs- Agonist and antagonist
- Autocoids and related drugs:
 - a. Histamine and Antihistaminic
 - b. 5HT and antagonist
 - c. NSAID'S
 - d. Prostaglandins and leukotrienes
- Drugs acting on Respiratory system
- Drugs acting on Somatic nervous system
 - a. Skeletal muscle relaxants – Depolarizer and Non-Depolarizer.
 - b. Local anesthetics
- 5. Drugs acting on central nervous system
 - a. General Anesthetics- Fixed and Volatile anesthetic agents.
 - b. Sedative and hypnotics
 - c. Anti epileptics
 - d. Anti psychotic and anti-maniacs
 - e. Opioids Analgesics and antagonists
- 6. Drugs acting on cardiovascular system
 - a. Cardiac glycosides
 - b. Anti arrhythmic drugs
 - c. Anti anginal and other anti ischemic drugs
 - d. Anti hypertensive drugs
- 7. Drugs acting on Kidneys
 - a. Diuretics
 - b. Anti diuretics

8. Coagulants and anti coagulants

Paper 3 Vishishta Sangyahan – Applied Anesthesia-100 marks

- Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.
- Anesthesia For: General surgery, Obstetric and Gynecology ,E.N.T. and Ophthalmic, Orthopedic ,Dental ,Pediatric , Urology , plastic and Outpatient / Day care surgery.
- Anesthesia for patients with: Diabetes mellitus, Hypertension, Jaundice, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.
- Regional anesthesia:
 - Sub-arachnoid and epidural anesthesia, analgesia.
 - Plexus and nerve blocks for upper and lower limb
 - Surface anesthesia, infiltration and field blocks
 - Regional anesthesia for thorax and abdomen
- Complications of Regional and general anesthesia, morbidity, mortality and medico-legal aspects.
- Anesthesia for Endoscopic, laparoscopic and Laser Surgery
- Anesthesia for Trauma and mass casualty
- Emergency anesthesia.

Paper 4 Monitoring Advances and Research in Sangyahan -100 marks

- a. Monitoring in anesthesia:
 - Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring.
 - Peri- operative Thermo- regulation and monitoring
 - Peri- operative awareness and monitoring depth of anesthesia with BIS.
 - Peri- operative acid-base balance
 - Peri- operative Fluid management and Blood transfusion.
 - Pt's positioning in anesthesia, its hazards and management
 - Risks and hazards of anesthesia
- b. Anesthesia equipments –
 - Medical gas systems
 - Breathing systems
 - Ventilators
 - Anesthesia machine
- c. Post operative management-
 - Post anesthesia care
 - Post operative nausea and vomiting
 - Post operative Intra-Venous fluid therapy
 - Post operative pain Management.
- d. Miscellaneous-
 - HDU,ICU, CCPR- BLS & ACLS.
 - Parenteral nutrition.
 - Environmental factor and electrical safety
- e. Management of Acute / Chronic Pain:
 - Assessment of pain
 - Peri-operative pain,
 - Chronic pain syndrome-detection and prevention,
 - WHO regime for Cancer pain,
 - TENS, Behavioral therapy
- f. Anesthesia in remote locations

- g. Clinical care in extreme environments (At high and low pressure and space).
- h. Relevance of Sammohana (Hypnosis), Acupressure and Acupuncture in Sangyahan.
- i. Recent advances in research in Sangyahrana, Pain Management and Palliative Care. Scope and Application of principles of Ayurveda in Sangyahrana Research.

METHODS OF TRAINING AND TEACHING FOR M.D. (Ayu) ANAESTHESIOLOGY -

Case Presentation	Once a Week
Seminar / Symposia	Once a Week
Pre Anesthesia Care / Clinic	Thrice a Week
Critical Care unit / Recovery Room	Once a Week
Classroom Lectures	Twice a Week
Morbidity / Mortality	Once a Week
Audit	Once a month
Journal Club	Once a month
Record Keeping	Once a month
Emergency Drills / Protocols	Once a Week
Interesting Cases	Once a Month

Practical Examination

Record(25)	-50 Marks	1. Case
2. Presentation of different types of Anesthesia	-50 Marks	
3. Thesis Presentation	-50 Marks	
4. Viva-Voce	-50 Marks	
Minimum pass marks	50%	

Result:- Pass/Fail

Staff required

Teaching- Professor-1	Non Teaching staff
Reader/Asso. Prof-1	Anesthesia Technician- 1
Lecturer/Assi Prof-2	Anesthesia Attendent-2
Sen.Resident-2	Ward boy-2
	Sweeper-2

Reference Books

a. Sushruta Samhita	-	
b. Charka samhita	-	
c. Ashtang Hridaya	-	
d. Practice of Anesthesia	-	Churchill Davidson
e. Miller's Anesthesia	-	Ronald D Miller
f. Synopsis of Anesthesia	-	Alfred Lee
g. Sangyahan Prakash	-	Dr. D. N. Pande
h. Agni karma-Technological Innovation	-	Dr. P.D. Gupta
i. Practice of Anesthesia and Resuscitation	-	Dr. P.K. Gupta et al
j. Essentials of Anesthesiology	-	Prof. A.K. Paul
k. Clinical Anesthesia	-	Prof. A.K. Paul
l. Anu Shastra karma	-	Dr. D.N. Pande
m. Textbook of Anesthesia	-	Aitkenhead
n. Anesthesia and co-existing disease	-	Stoelting's
o. Physiology and Pharmacology	-	Stoelting's
p. Understanding Anesthesia Equipments	-	Dorsch & Dorsch's
q. Clinical anesthesiology	-	G. Edward Morgan

18. AYURVEDA DHANWANTRI-SHALAKYA - NETRA ROGA

**Theory Four papers of- 100 marks each
Practical and Viva-voce - 100 marks**

PAPER- I Netra Rog Vangmaya

1. Available literature of Netra roga vigyana in Brihatrayi, Laghutrayi, Yogaratnakar, Chakradutta, Bhel Samhita, Harita samhita and Kashyap samhita.
2. Critical analysis of the available literature of netra roga vigyana in the above given classics e.g. Puyalasa and Vatahata Vartma In Sushruta samhita and Vagabhat samhita.
3. Unique/ specific contribution of different classics, Acharyas and commentators in the development of Netra roga vigyana.
4. Analytical determination of subjects related to eye disorders in ancient and modern literatures.
5. Update chronological development of Netra roga vigyana right from Vedic period.
6. Update chronological development of Ophthalmology.

PAPER- II Ayurvediya Netra Rog Vigyan

1. Enumeration and classification of Netra Rogas.
2. Descriptive knowledge of *etiology, pathogenesis, prodromal symptoms, clinical features, complications and prognosis* of pakshma -vartma- sandhi- - shukla-Krishna- dristi & sarvagata rogas along with exogenous eye diseases available in Ayurvedic classics. Medical and surgical Management of the above diseases with special skill development in Ashtavidha shastra & Trividha Anushastra chikitsa related to Netra roga.
3. Netra kriya kalpa procedures like seka, ashchyotana, vidalaka, pindi, tarpan, putapaka & anjana and their practical application and analysis based on ocular pharmacology. Standard operative procedures for Kriyakalpas including Aushadha kalpanas.
4. Study of nayanabhighata and , its management and prevention.

5. Knowledge of preventive and community ophthalmology along with national programme for control of blindness and role of Ayurveda.
6. Ayurvedic Concept of Congenital, developmental and neoplastic diseases of netra.

PAPER – III Adhunik Netra Rog Vigyan

1. Knowledge and application of current diagnostic techniques and equipments and therapeutics in Ophthalmology.
2. Detailed study of refractive errors along with defects of accommodation and their management.
3. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of eye orbit, lacrimal apparatus, lids, conjunctiva, cornea, sclera, uveal tract, lens, vitreous, retina, optic nerve and visual pathway with comprehensive knowledge of their medical and surgical management.
4. Ocular trauma , its emergencies and management.
5. Ocular motility disorders and their medical and surgical management
6. Neurological and systemic disorders affecting the eyes and their management.

PAPER – IV Recent Advances in Netra Chikitsa & Ophthalmology.

1. Update advances in the development of Ayurvedic drug formulations, therapeutic procedures and treatments of Netra roga.
2. Advanced technologies in the diagnosis of eye diseases.
3. Advanced technologies & techniques in the medical & surgical management of Netra roga.
4. Advanced management and technologies in Ophthalmology.
5. Detailed study of recent research works on chakshushya dravyas.
6. Comparative and critical study of modern advances in surgical techniques over the surgical methods described in Ayurvedic classics

Pattern of practical/Clinical training

1. Posting in OPD,IPD,OT & Kriya kalp Kaksha.
2. Case presentation ,clinical discussion, Seminars & Work shops.
3. Skill development in Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT etc.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations , journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year of the course, the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools , instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year ,training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ophthalmic procedure based therapies, surgical/para surgical procedures **so that the scholar is able**

to perform ophthalmic surgical procedures like Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT etc **independently**.

- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The resident has to compulsarily work for 6 terms of posting. Each term shall be of 4 months.
- The student should also contribute in the academic work of the department.

**Pattern of Practical Examination
Marks**

100

1. Bed side examination	
Short Case 2 of 10 marks each	-20 Marks
Long Case	-20 Marks
2. Identification of specimen / Instrument / Radiograph	-10 Marks
3. Thesis Presentation / Viva	-10 Marks
4. Teaching skill	-10 Marks
5. Viva Voice	-30 Marks

Reference Books

1. Charaka Samhita with commentaries
2. Sushruta Samhita and Vagbhata with commentaries
3. Astanga Hridaya and Astanga Sangraha with commentaries
4. Madhava Nidan with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara Samhita with commentaries
7. Sahstrayoga Sangraha
8. Relevant part of Chakradhatta, Bhel Samhita, Harita Samhita
9. Shalakya Tantra Kriya Kalpa Vigyan - Prof.K.S. Dhiman
- 10 Shalakya Tantra -DR. R.C. Chaudhary
- 11 The Actions and uses of Indigenous Ophthalmic Drugs - DR.N.Srikanth
- 12 Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
- 13 Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
- 14 Disease of the Lens and Vitreous, Glaucoma and Hypotony - Duke Elder, St. Louis
- 15 A Text Book of Ophthalmology - Ahmed E.
- 16 A Text book of clinical ophthalmology - Dhanda
- 17 Modern Ophthalmology - Dutta, L.C. Jaypee

18 Manual of the Diseases of the Eye Worth, Bailliere Tindal and Castell	Brothers - May,C. and C.
19 Ophthalmology – Principles and Concepts C.V. Louis.	- Newell, F.W., Mosby Co., St.
20 Ocular Differential Diagnosis Hamptn	- Roy Fedrick Lea and Febiger
21 Clinical Ophthalmology R.Verghese	- Smith, Company
22 Abrahm Manual of Refraction	- Duke and Elder
23 Hand Book of ophthalmology	- B.M. Chaterjee
24 Text Book of ophthalmology Nema	- Dr.Nitin Nema, DR.H.V.
25 Clinical ophthalmology	- Kanski
26 Parsons Diseases of Eye	
27 Stallard’s Eye Surgery	

**19.AYURVEDA DHANWANTRI- SHALAKYA - SHIRO- NASA-
KARNA EVUM KANTHA ROGA(M.S. Ayurved ENT& Head)**

Theory Four Papers of -100 marks each

Practical and Viva Voce- 100 marks

PAPER – I Shiro- Nasa- Karna - Kantha Roga Vigyan Maulik Siddhanta and Vangmaya

1. Detailed study of Shalakyatantra from Bruhat trayee, Laghutrayee, Kashyap samhita, Yoga ratnakar, Chakradutta, Bhel samhita , Harita samhita and other granthas with special reference to Shiro – Nasa - Karna - Kantha Roga Vigyan with comparative and critical study of rogas explained by these classics.
2. Syntactical derivation, definition and importance of the word "Shalakyaa". Update chronological development and history of science of ear, nose, throat and Shiras disorders. Establishment of "Superiority of shiras' among the organs. Determination and importance of the verse '**Nasa Hi Shiraso Dvaram**'.

3. Importance of shaman and sodhana therapy in ear, nose, throat and shira disorders with general introduction to local therapeutic procedures of ear nose and throat and shira e.g. kaval, gandusha etc.
4. Detailed applied knowledge of recent advanced diagnostic and therapeutic techniques and equipments (Yantra and Shastra) used for Shiro – Nasa - Karna - Kantha (ENT) and Shira disorders.
5. General knowledge of 'vrana bandhana' (bandaging of wounds) and applied bandage in ear etc.
6. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

PAPER – II Ayurvediya Shiro – Nasa - Karna - Kantha Roga Vigyan

1. Examination of the ear, nose, throat and head in patients.
2. Karna-Nasa –Kantha –and Shira rogas samkhya samprapti, descriptive knowledge of etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures) sadhyasadhyatwa and, complications of ear disorders described in the classics of Ayurved. Detail description along with practical orientation of their management.
3. Nasa rogas samkhya samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures), sadhyasadhyatwa and complications of nasal diseases described in the classics of Ayurved. Detail description along with practical orientation of their treatment.
4. Kantha rogas samkhya, samprapti, descriptive knowledge about etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures), sadhyasadhyatwa and complications of kantha diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.
5. Shira and Kapala (cranial vault) disorders samkhya samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures) and complications of Shira and kapala diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.

PAPER – III Adhunika Shiro- Nasa- Karna - Kantha Roga vigyan

1. Descriptive knowledge of instruments and recent equipments available for diagnosis of ear – nose – throat – head disorders along with their practical application.
2. Descriptive knowledge of etiology, pathogenesis, clinical features, differential diagnosis, classification along with complications of different ear – nose- throat and head disorders. Detail knowledge of the treatment (including conservative and surgical) of the above mentioned disorders.

3. Imaging in ENT and Head disorders, detailed knowledge of LASERS, radiotherapy, chemotherapy and other recently advanced treatment modalities like speech therapy, cochlear implant, rehabilitation of the deaf and mute, etc. related to ear – nose – throat – and head disorders.
4. Management of emergencies in ENT and head disorders.

PAPER – IV Shiro- Nasa- Karna -Kantha Roga Vigyan- Shalya Chikitsa

1. Knowledge of agropaaharniya and d trividha karma i.e pre operative, operative and post operative measures. Knowledge of eight types of surgical procedures (Astavidha Sasthra Karma) and post operative care of the patient with respect to ENT disorders (Vranitopasaniya).
2. Karna-Sandhan Nasa-Sandhan, fundamental and applied aspects of Ayurveda with Practical knowledge of updated surgical procedures in ear – like constructive surgery of external and middle ear, excision of pre auricular sinus, Tympanoplasty, Mastoidectomy, Stapedectomy, Endolymphatic sac surgery, Facial nerve decompression surgery, Cochlear implant, etc with their complications and their management.
3. Nose – Septo-rhinoplasty, SMR, Functional Endoscopic sinus surgery, Caldwell luc surgery, Antral puncture, Antral lavage, Turbinectomy, Polypectomy, Various surgical procedures done for malignancy of Nose and paranasal sinuses, Young's surgery, etc
4. Throat - Adenoidectomy, Tonsillectomy, Surgical procedures for pharyngeal abscesses, cauterization of pharyngeal wall granulations, tracheostomy, vocal cord surgery, surgery of vocal cord paralysis, management of laryngeal trauma, laryngectomy, etc.
5. General introduction of four treatment procedures like Bsheshaj- Kshar – Agni- Shastra and Raktavsechana with their applied aspects in ear nose throat and shiro disorders . Chaturvidha upakrama in raktasandhan vidhi related to ear nose throat and head disorders. Haemostatic management in ENT.
6. Removal of foreign bodies in the ear nose throat and shira as per Ayurveda and modern science.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations , journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools , instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year ,training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ENT procedure based therapies, surgical/para surgical procedures **so that the scholar is able to perform ENT surgical procedures independently.**
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.

- The student should also develop in the academic work of the department.

Pattern of Practical Examination:

1. Bed side examination Long Case	-20 Marks
Short Casex2 @ 10 marks each	-20 Marks
2. Identification of specimen / Instrument / Radiograph/Photo	-10 Marks
4. Thesis Presentation	-10 Marks
5. Teaching Skill	-10 Marks
5. Viva Voce	-30 Marks

Reference Books

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Shalaky tantra – Dr. R.C. Choudhary
7. Shalaky Tantra- KRIYAKALP VIGYAN -Prof K.S.Dhiman
8. Modern books related to ENT disorder
9. Diseases of Nose Throat and Ear - Bhargav Shah
10. Diseases of Nose Throat and Ear, Head and Neck- EB Edr.
11. A Text book of otorhinololaryngology - Scott Browns editions.
12. Text book of Ear Nose Throat diseases – Dhingra
13. Text book on ENT – Mohd. Maqbool
14. Logan Turner’s book on ENT
15. Ballengers text book of ENT
16. Kumin’s text book of ENT
17. Rob Smith’s book of ENT surgery
18. Paprella’s book of ENT
19. Hazarika’s text book on ENT
20. Books on examination of ENT
21. Audiology Anirwan Biswas
22. Kurt’s Audiology
23. Books on Speech therapy

20. AYURVEDA DHANWANTRI-SHALAKYA - DANTA EVUM MUKHA ROGA

PAPER – I Ayurveda Siddhanta and Vangmaya Marks 100

1. Etymology, definition and importance of the word 'Shalakyā', History and development of the science of oral and dental diseases. Etymology and synonyms of the word 'Mukha' and 'Danta'. Ancient and recent knowledge of anatomy of oral cavity and teeth along with the knowledge of salivary glands.
2. Detailed study of Oral cavity and gustatory physiology.
3. Oral hygiene, Social aspect of oral hygiene, preventive measures in oral cavity diseases, general etiology, pathogenesis, prodromal symptoms, clinical features and general management of oral cavity diseases.
4. Agropaharaniya, knowledge of purva, pradhan and pashchat karma. Study of Ashta Vidha Shastra Karmas in relation to Danta and Mukha Roga.
5. Applied and detailed study of therapeutic measures for oral and dental disorders, like Kavala, Gandusha, Dhumapana, Nasya, Murdhtaila Mukhalepa and Pratisarana and their definition, types, indications, contraindications, procedure, features of proper, excess, deficient application and their management.
6. Importance of shodhan and shaman treatment in oral and dental diseases and knowledge of common recipes useful in oral and dental diseases.
7. General introduction of four types of treatment (Bheshja, Shastra, Kshara, Agni). Detail description of Anushastra karma; their practical knowledge in oral and dental diseases.
8. Analytical determination of related subjects of danta-mukha disorders available in Modern and ancient and modern commentaries of different Samhita.

PAPER – II Ayurvediya Danta evum Mukha Rog Vijnana

Marks 100

1. Examination of oral cavity, periodontia and teeth. Teeth eruption and its systemic disturbances in a child, Classification, Number of teeth along with detail knowledge of abnormal tooth eruption. Dental disorders in paediatric age group, their prevention and treatment.
2. Danta gata rogas – Danta Rogas detailed in the classics of Ayurved; their etiology, pathogenesis, prodromal symptoms, clinical features, complication and Management along with applied approach in the treatment of dental diseases.
3. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis of diseases of the Oushta, Danta-Mula Gata Roga (**gum-periodontia**) and **Jihwa** as detailed in the classics of Ayurved. Practical approach/orientation in Treatment of Ousta, Dantamula and Jihwa Rogas.
4. Talu (palate) and Kantha Rogas, detailed study of etiology, pathogenesis, prodromal - symptoms, clinical features, complications and, prognosis. Detailed description of their treatment along with Applied Views.
5. Sarvasara Mukharogas (Generalized oral diseases) available in ayurvedic classics. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications, prognosis and management of Sarvasara mukha rogas along with practical orientation.
6. Knowledge of Dantabhighata (dental trauma) and Mukhabhighata (oral injury) along with diagnostic and referral skills.

PAPER – III Adhunik Danta evum Mukha Rog Vijnana

Marks : 100

1. Detail study of etiology, pathogenesis, clinical features, classification and complication of various oral and dental diseases available in literature of Modern sciences. Detail study of their Management along with advanced technics.
2. Detail description of diagnostic technology in the establishment of oral and dental disease.
3. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

20. PANCHKARMA

PAPER-I

Purva Karma-Snehana and Svedana

Marks :100

Part-A

INTRODUCTION

1. Detail knowledge of Shadupakram and relation of Shodhan with it
2. Panchkarma in Ashtanga Ayurved and Significance of Shodhana
3. Ama and Shodhana, benefits of Shodhana, Samikshya Bhavas in Shodhana,
4. 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 Sneha- Ghrita, 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, Padaghata, Samvahana, Udvartana/Utsadana, Udgharshana, Avagaha, Pariseka, Lepa, Pralepa, upadeha etc various types of lepa having cosmetic values along with the drugs and methods; Ayurveda face pack;lepa for cosmetic problems such as tilakalak, neelika , nyaccha,mukha dushika etc with drugs and methods. Gandusha, Kavala; Karna 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: absorbtion of fatty substances through skin; types of skin like dry, moist etc and their Ayurvedic management.
12. Karmukata of Abhyantara and Bahya Snehana
13. Knowledge of different contemporary massage techniques
14. Abhyantra Snehana: Definition of Brimhnartha, Shamanartha and Shodhanartha, method and utility of Brimhanartha and shamanartha Snehana; difference between Shamanartha and Shodhanartha Snehana
15. Methods of Abhyantara Snehana
16. Shodhanartha Snehana: Acchapana and Vicharana, Utility and various methods of Sadyasnehana, Avapidaka Sneha

17. Matra of Sneha : Hrasiyasi, Hrasva, Madhyama and Uttama Matra with their indications, specific utility of Ghrita, taila, Vasa and majja; Anupana of Sneha along with justification and their role in the drug action.
18. Need and method of Rukshana before performing Snehana in specific conditions and Samyak Rukshana Lakshana
19. Shodhananga Snehana Vidhi and methods of fixation of dose
20. Diet and Pathya during Snehana
21. Observation of sneha Jiryamana, Jirna and Ajirna Lakshana
22. Samyak, Asnigdha and Atisnigdha Lakshana of Snehana
23. Sneha vyapat and their management
24. Pariharya vishaya and Parihara Kala

PART –B

Svedana

1. Etymology and definition of Svedana
2. General considerations about Svedana
3. Properties of Svedana and Svedopaga Dravya
4. Indications and contraindications of Svedana
5. Various Classifications of Sveda and Svedana
6. Detailed knowledge of four types of Sveda of Sushruta with their utility.
7. Hina, Mridu, Madhya and Mahana Sveda; Ekanga and Sarvanga sveda with their utility
8. Utility and method of each of 13 types of Saagni and 10 types of Niragni Sveda
9. Shodhananga 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 etc .
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; kleda and sveda; pathophysiology of sweat and sebum; fat metabolism and skin and its appendages; secretory and excretory function of skin; skin as sparshanendriya; various types of nerve endings in skin; effects of stimulation by touch, friction pressure and temperature etc.
16. Current sudation modalities like Sauna bath, Steam Bath, Infrared, etc. along with their effects and mode of action, role of snehana and svedana in promotion of skin health.
17. Svedana with Kati Basti, Janu Basti and Griva Basti etc along with karmukata.
18. Study of Snehana and Svedana related portions in classics with commentaries

PAPER - II

Vamana and Virechana Karma

100 Marks

Vamana Karma: 50 Marks

1. Etymology, 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. Preparation and management of Patients on the morning of Vamana
13. Administration of food articles prior to Vamana
14. Selection of Drug and time of administration; Anupana, Sahapana, dose and method of administration of Vamana and Vamanopaga preparations
15. Method of Vamana Karma, waiting period for Sva-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 along with its phramaco-dynamics.
17. Observation; and assistance to the patient during Vamana
18. Vega and Upavega of Vamana 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 Shuddhi 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, Atiyoga and Vyapat of Vamana with Ayurveda and modern drugs
25. Parihara Vishaya and Kala for Vamana
26. Vamana Karmukata with Pharmaco-dynamics of Vamana
27. Study of Vamana related portions in classics with commentaries
28. Recent advances of researches on the effect of Vamana
29. Scope of research in vamana.
30. Role of Vamana in promotion of health, prevention and treatment of diseases

Virechana Karma: 50 Marks

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 virechana Karma
8. Contraindications of Virechana with reasons
9. Utility of Virechana for the specific conditions and stages of the diseases
10. Internal Snehana for Virechana with diet
11. Management of 3 gap days and importance of low Kapha for proper Virechana
12. Abhyanga and Svedana as Purvakarma of Virechana
13. Preparation and Management of Patients on the morning of Virechana
14. Reason for performing Virechana on empty stomach
15. Selection of virechana Drug and time of administration; 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 faeces and its weighing
18. Samyak, Ayoga and Atiyoga of Virechana
19. Laingiki, Vaigiki, Manaki and Antiki Shuddhi of Virechana
20. Hina, Madhya and Pravara Shuddhi and Samsarjana Karma accordingly
21. Detail knowledge of methods of Samsarjana Karma and its importance, and Tarpana karma and its importance
22. Management of Ayoga, Atiyoga and Vyapat of Virechana with Ayurveda and modern drugs
23. Parihara Vishaya and Kala for Virechana
24. Virechana Karmukata along with its Pharmacodynamics
25. Applied anatomy and physiology of Gastrointestinal system related with Vamana and Virechana
26. Study of Virechana related portions in classics with commentaries
27. Recent advances of researches on the effect of Virechana
28. Scope of research in Virechana.
29. Role of virechana in promotion of health, prevention and treatment of diseases

PAPER - III

Basti Karma and Nasya Karma

100 Marks

Basti Karma:50 Marks

1. Etymology, definition and general considerations of Basti
2. Importance of Basti in Kayachikitsa and other branches of Ayurveda
3. Classifications of Basti and Basti drugs
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
8. Dose schedules of Niruha and Anuvasana basti

9. 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 proportions, methods of mixing basti Dravya,

Niruha vasti and its relation with other shodhan therapies:Relation of niruha vasti with anuvasana vasti.

Purvakarma for Niruha Basti; Pathya before, during and after Niruha Basti; all the aspects of administration of various Niruha Basti.Method of preparation of various Niruha vasti dravya; rationale behind use of various ingredients, sequential mixing and position of patient.

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,

10. 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

11. Various combined basti schedules such as Karma, Kala, yoga Basti etc.
12. Detailed knowledge of sneha basti and Matra Basti
13. Detailed Knowledge of different basti formulations like Piccha Basti, Kshira Basti, Yavana Basti, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti, Vrishya Basti, Manjishtadi Niruha Basti, Dashamula Basti, Ardhamatrika Basti, Sarva rogahara Niruha Basti, Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.
14. Karmukata of Basti. Applied anatomy and physiology of colon, Pharmacodynamics of Basti
15. Concept of 'Gut Brain' and its relevance to Basti Therapy.
16. Study of relevant portions of Basti in classics with commentaries.
17. Recent advances of researches on the effect of Basti
18. Scope of research in Basti.
19. Role of Basti in promotion of health, prevention and treatment of diseases

Uttara basti: 10 Marks

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 their management
3. Karmukata of Uttara Basti. Applied anatomy and physiology of urethra and related female genitalia, Pharmacodynamics of Uttara Basti

Nasya Karma: 40 Marks

1. Etymology, synonyms, importance and definition of Nasya
2. Nasya drugs according to various Samhita
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 type 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 Shadbindu Taila, Anu taila, Kshirabala Taila, Karpasastyadi Taila, Bramhi Ghrita etc.
10. Samyak yoga, Ayoga and Atiyoga of each types of Nasya, its Vyapat and their management
11. Pashchat 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 Siraso 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
16. Recent advances of researches on the effect of Nasya
17. Scope of research in Nasya.
18. Role of Nasya in promotion of health, prevention and treatment of diseases

PAPER - IV

Raktamokshana, Physiotherapy and Disease wise Panchakarma

100 marks

A. Raktamokshana-

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 types 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 , Atiyoga and Vyapat 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-

1. Definition and terminology of clinical physical medicine.
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.

PART B C. Disease-wise Panchakarma-

1. Role of Panchakarma in different Stages of the diseases mentioned in Ayurveda particularly in followings:

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 etc.

2. Use of Various Panchakarma procedures in the following disorders -

Migraine, Parkinson's Disease, trigeminal neuralgia, Bell's palsy, cerebral palsy, Muscular dystrophy, hemiplegia, paraplegia, Lumbar Disc disorders, Spondylolisthesis, Ankylosing spondylosis, Carpel Tunnel Syndrome, Calcaneal Spur, Plantar fasciitis, 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,

Practical and viva-voce: 100 Marks

1. Case presentation along with justification of Shodhana intervention	30 marks
2. Preparation and execution of shodhana therapy	30
3. Viva marks	30
4. Lecture/Presentation on a given topic	10
Marks	

Reference Books:

1	Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara	Agnivesha
2	Sushruta Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana	Sushruta
3	Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries	Vagbhata
	Ashtanga Sangraha with Shashilekha commentery	Vagbhata
	Bhela Samhita	
	Kashyapa Samhita	
	Bhavaprakasha of Bhavamishra	
	Sharangadhara Samhita	
	Vangasen	
	Gadanigraha	
4	Ayurvediya Panchkarma chikitsa	Dr Mukundilal Dwivedi
5	Panchkarma Vigyan	Dr Haridas Shreedhar Kasture
6	Illustrated Panchkarma	Dr.G Srinivasa Acharya
7	Ayurveda-Principles and Practice of Panchakarma	Dr. Mandip and Dr Gurdip Singh
8	The Panchkarma Treatment of Ayurved with	Dr. T.L. Devaraj

Kerala Specialities

- | | | |
|----|--|---|
| 9 | Panchkarma Therapy | Dr. R.H. Singh |
| 10 | Principles and practice of vasti | Dr. Vasudevan Nampoothiri and
Dr. L. Mahadevan |
| 11 | Claiton's Physiotherapy | |
| 12 | Teddy's Physiotherapy | |
| 13 | Harrison's Principles of Internal Medicine | |
| 14 | Guyton's Physiology | |

Chhaya Avum Vikiran Vigyan

(Imaging and Radio-diagnosis)

(FINAL YEAR)

Paper-1

Fundamentals of Chhaya Avum Vikiran Vigyan (Imaging and radio-diagnosis)

Part-A

1. Detail knowledge of principles of Ayurveda and their applied aspects, specially Panch Mahabhuta, Dosh, Dhatu, Mala, Panch Nidan, Prakriti, Shatkriyakaal, Praman, Chhya-Pratichchaya , Prabha, , Rogi pariksha (Trividha, Shatvidha especially Darshan pariksha), their relevance with Chhaya avum Vikiran Vigyan.
2. Study of Ayurvedic classics and modern Medical Science texts related to Chhaya avum vikiran vigyan
3. Chhaya avum Vikiran vigyan as a means of Darshan priksha.

Part-B

1. Infrastructure of an ideal Chhaya avum vikiran unit.
2. Fundamental principles of Chhaya avum vikiran vigyan
3. Detail knowledge of equipments (yantra) used in Chhaya avum Vikiran Vigyan.
4. Dark room techniques
5. Ionizing and non ionizing energies related to Chhaya avum Vikiran Vigyan - relevant hazards, prevention and precautions, their management by Ayurvedic and modern measurements.
6. Trividh Karma –Poorva ,Pradhan avum Pashchat Karma in Chhaya avum Vikiran Vigyan
7. Occupational disorders of consultants related to *imaging and Radio-diagnosis*.

Paper-2

Applied Anatomy, Physio-pathology and Procedures in Chhaya avum Vikiran Vigyan (Imaging & Radio-diagnosis)

Part-A

Applied Anatomy, Physiology & Pathology in Chhaya avum vikiran Vigyan (Imaging & Radio-diagnosis)

1. Detail knowledge of Ayurvedic and Modern applied radiological Anatomy (including sectional), Physiology and Pathology of the human body;

1. Sira(Vessels), Gaurya Sira, (Lymphatic channels), Mansa (Muscles), Snayu (Ligaments), Kandara (Tendons), Sandhi(Joints), Nadi(Nerve), Asthi(Bones), Strotas , Marma, Antahsravi granthi (Endocrine glands) etc.

2. Urdhwajatrugata(Supraclavicular) parts-Kapaal(Skull),Karna(Ears),Chakshu(Eyes), Nasa(Nose), Paranasal sinuses, Lalagranthi(Salivary glands), Face, Greeva(Neck), Sushumna(Spinal cord) and Kaseruka (vertebrae), Mukha(Mouth), Danta(Teeth), Mastulunga(Brain), Lasika granthi(Lymph glands)etc.

3. Koshtha (Trunk) parts-Sushumna(Spinal cord) and Kaseruka(vertebrae).

a. Vaksha(Thoracic) parts- Phupphus(Lungs),Hridaya(Heart) &Sira(Vessels), Shwashnalika(Trachea, Bronchi), Annamarg (Esophagus), Lymph nodes, Baksha(Breast),Hridayabandhan(Diaphragm)etc.

b. Udar(Abdominal)parts- Audaryyakalaa (Peritoneum)
Aamashaya(Stomach),Kshudrant(Smal-intestine), Vrihadantra (Large- intestine), Guda (Rectum and Anal canal), Aantrapuchchha (Appendix) , Yakrit(Liver), Pitashaya(Gall bladder), Billiary channels, Pleeha(Spleen), Agnyashaya(Pancreas), Vrikka (Kidney),Gavini(ureter), Basti(urinary bladder), Shishna(penis),Paurushgranthi (prostate) ,Vrishan(testes),Shukrashaya (seminalvesicles),Dimbashaya(ovaries), Perineum Garbhashaya(uterus), Yoni, Dimbvahini(fallopian tubes), Lasika granthi (lymph nodes) etc.

4. Shakha-parts of upper and lower extremities.

Part –B

Procedures in Chhaya avum Vikiran Vigyan (Imaging & Radio-diagnosis)

- Various routine and special, non-contrast and contrast radiography, Digital radiography, Radiographic positions and views.
- Various Ultra Sonographic procedures -Various diagnostic and therapeutic Ultrasonography [routine,,joint study, various Endo-USG, Obstetrics -Garbha vinishchaya (confirmation of pregnancy) , Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being) and Vyadhi (fetal diseases) ,Vikrita garbha (congenital anomalies) . Aparā (Placenta) , Nabhinadi darshan (umbilical cord) ,Garbhapatta (abortion) Aparā / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility) , Garbhashayabhransha (uterine prolapse)etc. Dopplers USG guided techniques and other advances.
- CT, MRI, Radionuclide scanning, PET and other recent advanced procedures in Imaging & Radio-diagnosis .
- Mammography
- Bone Densitometry
- Interventional radiology

Paper 3

Physics and Biology related to Chhaya avum Vikiran Vigyan(Radio diagnosis & Imaging)

Part-A

- Physics of radiography, Digital radiography, Fluoroscopy, their application.
- Physics of ultrasonography, its applied aspect related to various U.S.G, Doppler procedures.
- Study of contrast materials used in Radio-diagnosis and imaging.

Part-B

- Physics of CT scan, its applied aspect, efficiency and limitations.
- Physics of MRI, its applied aspect, efficiency and limitations.
- Physics and its applied aspect related to other imaging procedures e.g. PET, Radio- Nuclides imaging etc.
- Biology related to Chhaya avum Vikiran Vigyan

Paper-4

Applied Chhaya avum Vikiran Vigyan (Imaging & Radio-diagnosis)

Part-A

-Applied aspects of radiographic interpretation and reporting of various diseases related to systems, organs (as mentioned in paper-2nd, part-A) and metabolism.

Part-B

- Applied aspects of Ultrasonography, interpretation and reporting of various diseases related to system, organ (as mentioned in paper-2nd, part-A,) and metabolism, routine joint study, various Endo-USG. , Obstetrics -Garbha vinishchaya (confirmation of pregnancy) , Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being,bio-physical profile) and Vyadhi (fetal diseases) ,Vikrita garbha (congenital anomalies,2nd level obstretic USG) . Apara (Placenta) , Nabhinadi darshan (umbilical cord),Garbhapatta (abortion) Apara / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology – Yonivyapat (gynaecological disorders), Bandhyatva (infertility) , Garbhashayabhransha (uterine prolapse)etc. Dopplers, USG guided techniques and other advances..

- Applied aspect , interpretation and reporting of CT scan, MRI scan and other advanced Radiological techniques.

-Application of Chhaya avum vikiran vigyan in context to Ayurvedic fundamentals, diagnosis, management and research .

Examination -

Final Year

1-Theory-

Paper 1^t (100 marks, 3 hours duration)

Paper 2 (100 marks, 3 hours duration)

Paper3 (100 marks, 3 hours duration)

Paper 4 (100 marks, 3 hours duration)

2- a)Dissertation

- b) **Practical-** Clinical oral ,procedures, interpretation and reporting -100 marks

Guidelines for conducting practical examination (100 marks)

Contents:

(A) Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran vigyan)

1- Spotting / Short cases for radiological diagnosis

2- Equipments

3- Selection of appropriate diagnostic radiological modalities for the patients, correct advice / instructions to the patient.

4- Purva karma, Pradhan karma, Pashchat karma.

(B) Krita योग्यता (Practical skills)

1- Quality control of X-rays and imaging equipments

2- X-ray—plain/contrast, spot films, fluoroscopy, digital x-rays—procedures, performance of dark room technique, their principles, pathological changes and applied interpretation and reporting .

3- Various USG procedures performance, their principles, pathological changes and applied interpretations and reporting. Various diagnostic Ultrasonography [routine, various Endo-USG, Obstetrics -Garbha vinishchaya (confirmation of pregnancy) , Masanumas Garbh vriddhi (fetal development), Garbha swastha (fetal well being ,bio-physical profile) and Vyadhi (fetal diseases) ,Vikrita garbha (congenital anomalies,2nd level obstretic USG) . Apara (Placenta) , Nabhinadi darshan (umbilical cord),Garbhapatta (abortion) Apara / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility) , Garbhashayabhransha (uterine prolapse) etc. Dopplers, USG guided techniques and other advances.

4- CT scan, MRI, Radionuclide scan ,PET, Mammography, Bone densitometry, Interventional radiological performance / reading, their principles, pathological changes and applied interpretations and reporting.

(C) Shastram nigadata(Teaching and Research ability)

1- Role of radiology in the field of Ayurvedic research, dissertation, research methodology, paper and project writing,

2- Teaching and audio-visual presentation performance.

3-Dissertation

(D) Adhigata tantrenopasita tantrartha , Shasatra vijaniyata (Comprehensive assessment of acquired knowledge) -

- Role of radiology in the field of Ayurvedic diagnosis , management and research.
- Ethics, environmental and legal issues related to radiology.
- Management of department of radiology.
- Safety measurements in Radio-diagnosis and imaging.
- Management of emergencies in the department of radiology .
- Further assessments and advice etc.

Pattern:

-Viva voce- 40 Marks

-Practical ability assessment- 60 Marks

a. Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran

Vigyan)- 15 Marks

b. Krita योग्यता (Practical skills)- 25 Marks

(i) Procedures- 15 Marks

(ii) Viva on procedures- 10 marks

c. Shastram nigadana(Teaching and Research ability)- 20 Marks

(i) Dissertation work- 10 Marks

(ii) Teaching ability - 10 Marks

Reference Books;

Shusruta Samhita	Relevant part
Charak Samhita	-do-
Astang Hridaya/Sangrah	- do-

Text Book of Radiographic Positioning and Related Anatomy – By Kenneth L Bontrager , John P Lampignano
Radiographic interpretation to general practitioner –W.H.O.
Procedures in diagnostic Radiology – By T. Doyle, W. have, K. Thomson.
Radiographic positioning - By Clark
Radiobiology for the Radiologist – By Hall.Christensen’s Physics of Diagnostic Radiology – By Curry T S , Dowdey J E , Murry R C
Farr’s Physics for Medical Imaging – By Penelope Allisy- Roberts , jerry Williams
Fundamental of Diagnostic Radiology – By Brant.
Diagnostic Imaging – By Federle
Diagnostic Imaging – By Peter Armstrong , Martin Wastie , Ansrea Rockall
Gastrointestinal radiology – R.L. Eisenberg
Uro-radiology - T.Sherwood,A.J.Davidson,L.B.Talner
Grainger and Allison’s Diagnostic Radiology-Text book of medical imaging
Text Book in Radiology and Imaging – By D. Sutton.
Introduction to Vascular Ultrasonography- By Zwiebel , Pellerito
Text book in Ultrasonography – By Roumack
Manual of Medical Diagnostic Ultrasonography - By W.H.O. Scientific group.

Computed Tomography & MRI of the whole body – By Hagga.

Surface and Radiological Anatomy – By A. Halim

X-Ray equipment for student Radiographers – By DN and MO Chesney

Clinical Sonography , A Practical Guige – By Roger C. Sanders , Tom Winter

Ultrasonography in obstretics and gynaecology-Callen

Standard Journals like Indian Journal of Radiology, Radiology,Radiological clinics of north America,British Journal of Radiology etc.

Audio-visual aids-CDs & DVDs

SECTION IV

TEACHING & MONITERING LEARNING PROGRESS

1. Seminars

The seminars shall be held at least once in a week in each post graduate department. All candidates are expected to participate actively and enter the relevant details in the log book. Each candidate shall make at least 5 seminars in each year.

2. Journal club

The journal review meeting shall be held at least once in week. All candidates are expected to participate actively and enter relevant details in log book. The candidate should make the presentation from allotted journals of selected articles at least 5 times in each year.

3. Symposium

It is recommended to hold symposium on topics covering multiple disciplines.

4. Practicals/Clinical postings for Non-clinical/Clinical PG Courses

Each trainee shall work in hospital on regular basis to acquire adequate professional skills and competency in managing various cases to be treated by the specialist.

5. Conducting Lectures-teaching skills

All the candidates shall be encouraged to take part in the undergraduate teaching programmes either in the form of lecturer or group discussion in their subjects.

6. Conducting/attending Conferences at various levels

The candidate shall be encouraged not only to attend conference/workshop/advance course but also to present at least one paper at state/national competence during their training period.

7. Continued Medical Education programmes

Each post graduate department shall organize these programmes on the regular basis involving the other institution. The candidates shall also be encouraged to attend the programme conducted elsewhere.

8. Postings by rotation to other Institutions/Departments

To bring in more integration between the competence and allied fields each post graduate department shall work out a programme to rotate the candidate in related disciplines.

9. Periodic tests

In case of degree courses of three years duration, the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals/clinical and viva voce.

10. Work Diary/Log Book

Every candidate shall maintain a work diary and record his / her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in tables 1,2 and 3 of chapter 4. Copies may be made and used by the institutions.

11. Practical records

Records, log books and marks obtained in tests shall be maintained by the Head of the Department and shall be made available to the University or CCIM

12. Procedures of defaulters

Every department should have committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate to be withheld from appearing the examination, if she/ he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

FORMAT OF MODEL CHECKLISTS AND EVALUATION OF LEARNING PROGRESS

Checklist-1. Model Check list for evaluation of Seminar presentations

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.	Items of observation During presentation	Poor 0	Below Average 1	Average 2	Good 3	Very good 4
1	Whether other relevant publication					

	consulted					
2	Whether cross reference have been consulted					
3	Completeness of the preparation					
4	Clarity of the preparation					
5	Understanding the subject					
6	Ability to answer the questions					
7	Time scheduling					
8	Appropriate use of audio- visual aids					
9	Overall performance					
10	Any other observations					
	Total score					

Checklist-2 Model Check list for evaluation of Journal review Presentations

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.	Items of observation During presentation	Poor 0	Below Average 1	Average 2	Good 3	Very good 4
1.	Article chosen					

2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross-references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/ subject					
6.	Audio - Visual aids used					
7.	Ability to discuss the paper					
8.	Clarity of presentation					
9.	Any other observation					
Total score						

Checklist-3. Model Check list for evaluation of Practical work in Practical classes/Clinical work in OPD

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.	Items of observation During presentation	Poor 0	Below Average 1	Average 2	Good 3	Very good 4
1	Regularity of attendance					
2	Punctuality					
3	Interaction with colleagues and supporting staff					
4	Maintenance of case records					
5	Investigations work up					
6	Chair side manners					
7	Rapport with patients					
8	Overall quality of clinical work					

Total Score					
--------------------	--	--	--	--	--

Checklist-4. Model Check list for evaluation of Clinical Presentations

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.	Items of observation During presentation	Poor 0	Below Average 1	Average 2	Good 3	Very good 4
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of presentation					
4	Logical order					
5	Mentioned all positive and negative					
6	Accuracy of general physical examination					
7	Diagnosis: whether it follows logical from history and findings					

8	Investigation required complete list relevant order interpretation of investigations					
9	Ability to react to questioning. Whether it follows logically from history and findings					
10	Ability to justify differential diagnosis					
11	Ability to defend diagnosis					
12	Other					
	Total score					

Checklist-5. Model Check list for evaluation of Teaching skills

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.		Strong points	Weak points
1	Communication of the purpose of the talk		
2	Evokes audience interest in the subject		

3	The introduction		
4	The sequence of ideas		
5	The use of practical examples and/or illustration		
6	Speaking style (clear, monotonous, etc. Specify)		
7	Attempts audience participation		
8	Summary of the main points at the end		
9	Ask question		
10	Answer question ask by the audience		
11	Rapport of the speaker with his audience		
12	Effectiveness of the talk		
13	Use AV aids appropriately		

Checklist-6. Model Check list for evaluation of Dissertation presentation

Name of the Candidate:

Date:

Name of the Faculty/Observer:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very good 4
1	Interest shown in selecting topic					
2	Appropriate review					
3	Discussion with guide and the faculty					
4	Quality of the protocol					
5	Preparation of proforma					
	Total score					

Checklist-7. Model Check list for evaluation of Dissertation progress with Guide

Name of the Candidate:

Date:

3. Practical work in Practical classes/Clinical work in OPD												
4. Clinical Presentations												
5. Teaching skills												
6. Dissertation Presentations												
7. Dissertation progress with Guide												

LOG BOOK

Table 1`

Academic activities attended

Name:

Admission Year:

College:

Date	Type Of Activity- Specify Seminar, Journal Club, Presentation, UG Teaching	Particulars

LOG BOOK

Table 3

Diagnostic and operative practical (Prayoga)/Chikitsa (Therapeutic)

Procedure performed

Name:

Admission Year:

College:

Date	Name	OP No.	Procedure	Category O, A, PA, PI

Key:

O – Washed up and observed – initial 6 months of admission

A – Assisted a more senior surgeon – 1 year M.D. (Ay)/M.S.(Ay)

PA – Performed procedure under the direct supervision
of senior physician/ surgeon- 2 year M.D. (Ay)/M.S.(Ay)
PI - Performed independently – 3 year M.D. (Ay)/M.S.(Ay)

Section V
Ayurveda Ethics
Sensitization and Practice

Introduction:

There is now a shift from the traditional individual patient doctor relationship and medical care. With the advance in science and technology and the needs of the patient, their

families and community, there is an increasing concern with the health of the society, there is a shift to greater accountability to the society. Doctor and the health professional are confronted with many ethical problems. To accomplish the goal and general objectives stated in section II and develop human values it is urged that ethical sensitization is planned to be achieved by lecturers or discussion on ethical issues, discussion of clinical cases that have important ethical component and by including ethical aspects in discussion in all case presentation, bed side rounds and academic programmes.

Course contents:

The names of all the Sanskrit references below are given in bold scripts. This would serve as the Bibliography. The contents are merely indicated and not detailed excepting in the first few cases as a sample.

1. Introduction to Medical Ethics.

What is ethics?

Ethics is a way of living in conformity with a moral order (niiti para) that sustains (dhaarayati iti dharmah **Manusmriti**) oneself and one's society as it harms none and helps others and thus one earns merit and no sin (paropa kaarah punyaaya, paapaaya para pidanam)

What are values and norms?

See the section of purusharthas (psychological inclination: motivation in life) in **charaka Samhita = sutrastana** and **viman stana**, for an account on values in life and sadvrittavarana (description of good living) in both **charak samhita** and **sushruta samhita sutrastana** for norms in it. **Chakrapani's** commentary on charak samhita and **dalhana's** on sushruta samhita elaborate much on these two important ethical issues. Somatotypes in sushruta has some significant details on norms. Relationships between being ethical and human fulfillment.

Refer daivii sampat, aasurii sampat and sthitipragna lakshana in **bhagavad gita, anushaasana parva** and **shanthi parva** of **Mahabharata** for both of these topics.

- Relationships between being ethical and human fulfillment
- How to form a value system in one's personal and professional life
- Heteronomous ethics and autonomous ethics
- Freedom and person responsibility

2. Definition of Medical Ethics.

Medical ethics is regulating this living by the individual, the professional and the society – all doing their duties. Any transgression is a disease of the individual, the

professional and the societal. Ayurveda offers rules conducive to the increase of this span by (rasayan or) rejuisense, maintainance of health (swastya), by physical (aadhibhoutika) measures, medication (bhaishajya) and concern of the soul or sprit (adhyaatmika). Of these, the spiritual concern is of the basis value, as it would treat successfully the bodily as well as the mental life. The advice and the measures given by Ayurveda covers literally all aspects of man's life. They are of the food taken (aahara), the types of habitual sports and engagements (vihara) indulged in, and the types of the thought about the general inclination of the mind (vichara).

- 'Justice (equality)' Refers to history of Dharma Shastra by Dr. P.V. Kane and the corresponding Sanskrit originals. Self determination.
- Difference between medical ethics and bio- ethics
- Major principles of medical ethics

Beneficence	= fraternity
Justice	= equality
Self determination (autonomy)	= liberty

3. Perspective of Medical Ethics.

➤ The oath:

In Ayurveda there are two oaths, one at the beginning of the medical education taken by teacher and the student at the initiation ceremony or ayurvedopanayan and other at the end of the education. Both are many angled in there motivational and important to stress the needs and the many aspects of Medical ethics. The following works and their commentaries offer much of the relevant here that are worthy of being developed further in the light of modern needs: **Charaka Samhita Chikitsaastana Rasayanaadhyaya** (specially aachar rasayan . **Sushruta Sanhita And Chandogya Upanishat.**

- The declaration of Helsinki
- The declaration of Geneva
- International code of Medical Ethics (1993)

4. Ethics of the Individual.

- The patient as a person: See aatura pariksha in sushurauta sanhita and charaka samhita.
- The concept of disease: (see **Nidaana sthana** of **Charaka Samhita**, **Sushruta Samhita** and **Vagbhata's Astanga Hridaya**), health (see all **vridhdhatrayee**) and healing (see specially **Sushruta**)
- The physician: Patient relationship (consult **Dasemaani Pariksha**, the tenfold examination in **Charaka Samhita**).
- The right to be respected

- Truth and confidentiality
- The autonomy of decision
- The right to health
- Ethics of behavior modification
- Organ donation

5. The Family and Society in Medical Ethics.

- Family planning perspectives see under samskaaras in dharma shastra for eg. **Manudharma shastra** and **Yagnavalkal Smriti**.
- Prolongation of life: aachara rarsayan is the most effective way as **Charaka Samhita** sutra staana points out
- The ethics of human sexuality
- Advanced life directives – the living well
- Euthanasia
- Cancer and terminal care
- Conception: useful material on ethics exists under **Garbhadana Vidhi** in **Charaka** and pediatrics in **Kashyapa Samhita**.

6. Professional Ethics

Code of conduct

Contract and confidentiality

Charging of fees, fee splitting

Prescription of drugs

Over investigating the patient

Low cost drugs, vitamins and tonics

Allocation of resources in health science

Malpractice and negligence

7. Research Ethics

Animal and experimental research on human subjects

Human volunteer research – informed consent

Drug trials

Recommended readings

1. Francis C.M., Medical ethics. 1 Ed, 1993 Jaypee Brothers, New Delhi, p 189, Rs. 60/-

2. Krishnamurthy K.H., a Source book of Indian Medicine, D. K. Publishers, New Delhi, p547, Rs. 300/-
3. Ethical Guidelines for Biomedical Research on Human Subjects, ICMR, New Delhi, 2000.
4. The Indian Medicine for Central Council Act, 1970, Bare Act – 2002, Delhi Law House, Delhi, Rs. 20/-