

Curriculum

Proficiency Certificate Level

Health Science

(Ayurveda)

Three Year's Program – Yearly System
(Second and Third year)



Council for Technical Education and Vocational Training
Curriculum Development Division

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Introduction

The Government of Nepal has called for the provision of basic health service to all by establishing a network of health services in remote and urban areas. In this regard, the Council for Technical Education and Vocational Training (CTEVT) has been contributing towards the development of different level of health personnel. In the field of Medical Science (Ayurveda) CTEVT has planned to produce middle level ayurveda health service providers in the form of Health Assistant (Ayurveda). The Council will award "**Proficiency Certificate Level in Health Science (Ayurveda)**" to those candidates who successfully complete the requirements as prescribed by this curriculum. The Certificate in Health Science (Ayurveda) graduates will be able to work as Health Assistant (Ayurveda) in the hospital and clinical settings and also will be able to serve in the community.

Development of competency based curriculum is the prerequisite for skilling people, employment creation, poverty reduction and achieving Sustainable Development Goal. This curriculum 3 years Diploma in Ayurveda health science is designed for producing skilled Ayurveda health personnel equipped with knowledge and skills of Ayurveda and general medicine with a view to provide curative, preventive and promotive health services to the community. It should be based on code of conduct of Nepal Ayurveda Medical Council.

This course is based on the job required to perform by a middle level (skilled) Ayurveda health personnel at different health institutions in Nepal. The Certificate in Medical Science on Ayurveda program extends over three years. The first year courses focus on the basic sciences and foundational subjects similar to all health PCL/diploma programs, the second year focus on the subjects of medical sciences, and the third year is given to the application of learned theory and skill development in comprehensive field practice in both hospital and community.

The foundational subjects like English, Nepali, Physics, Chemistry, and Mathematics (offered in diffusion model of curricular programme) are applicable in the medical field. The disciplinary subjects of medical field are included in all three years. This curricular programme also makes the provision of project works as well as real world of work practices in the specific medical areas. The curriculum structure and the subject wise content reflect the details of this curriculum. In brief, this curriculum will guide to its implementers to produce competent and highly employable middle level technical workforces in medical field.

Curriculum Title

Certificate in Medical Science (Ayurveda)

Aim

The program aims to produce middle level technical personnel with sound academic knowledge equipped with perfect technical skills that can be faced in real life situation.

Programme Objectives

On completion of the course the students will be enabled to:

- ❖ Acquire knowledge and skills of Ayurveda and general medicine.
- ❖ Identify and resolve community health problems by applying Ayurveda and modern procedure and medicines.

- ❖ Diagnose and manage primary health problems of patients.
- ❖ Exhibit leadership skills and professional characteristics and attitudes required for Ayurveda health personnel or primary health care manager.
- ❖ Promote/innovate Ayurveda system of medicine with modern technology.
- ❖ Develop Professionalism.
- ❖ Create Enterprise on the related profession.

Group Size

The group size will be maximum of 40 (forty) students in a batch.

Entry Criteria

- SLC Pass or SEE with minimum GPA 2.0 and C grade in Compulsory Mathematics, English & Science.
- TSLC in Related discipline with minimum 66.68%.
- Should pass entrance examination as administered by CTEVT.

Duration

The total duration of this curricular program is three academic years. The program is based on yearly system. Moreover, one academic year consists up to 39 weeks and one academic week consists up to 40 hours excluding evaluation period.

Medium of Instruction

The medium of instruction will be in English and/or Nepali.

Pattern of Attendance

Minimum of 90% attendance in each subject is required to appear in the respective final examination.

Teachers and Students Ratio

The ratio between teachers and students must be:

- Overall ratio of teacher and student must be 1:10 (at the institution level)
- 1:40 for theory and tutorial classes
- 1:10 for practical classes

Qualification of Teachers and Instructors

- The program coordinator should be a master's degree holder in the related area.
- The disciplinary subject related teacher and demonstrators should be a bachelor's degree holder in the related area.
- The foundational subject related teacher should be master degree holder in the related area.

Instructional Media and Materials

The following instructional media and materials are suggested for the effective instruction and demonstration.

- **Printed Media Materials** (assignment sheets, handouts, information sheets, individual training packets, performance checklists, textbooks etc.).
- **Non-projected Media Materials** (display, models, flip chart, poster, writing board etc.).
- **Projected Media Materials** (opaque projections, overhead transparencies, slides etc.).
- **Computer-Based Instructional Materials** (computer-based training, interactive video etc.).

Teaching Learning Methodologies

The methods of teachings for this curricular program will be a combination of several approaches such as; illustrated lecture, tutorial, group discussion, demonstration, simulation, guided practice, fieldwork, block study, industrial practice, report writing, term paper presentation, heuristic and other independent learning exercises.

Theory: Lecture, discussion, interaction, assignment, group discussion, tutorial, group work.

Practical: Demonstration, observation, guided practice, self-practice, simulation, project work, report writing, term paper presentation, field visit etc.

Mode of Education

There will be inductive and deductive mode of education.

Examination and Marking Scheme

a. Internal assessment

- There will be a transparent/fair evaluation system for each subject both in theory and practical exposure.
- Each subject will have internal assessment at regular intervals and students will get the feedback about it.
- Weightage of theory and practical marks are mentioned in course structure.
- Continuous assessment format will be developed and applied by the evaluators for evaluating student's performance in the subjects related to the practical experience.

b. Final examination

- Weightage of theory and practical marks are mentioned in course structure.
- Students must pass in all subjects both in theory and practical for certification. If a student becomes unable to succeed in any subject, s/he will appear in the re-examination administered by CTEVT.
- Students will be allowed to appear in the final examination only after completing the internal assessment requirements.

c. Requirement for final practical examination

- Professional of relevant subject instructor must evaluate final practical examinations.
- One evaluator in one setting can evaluate not more than 20 students.
- Practical examination should be administered in actual situation on relevant subject with the provision of at least one internal evaluator from the concerned or affiliating institute led by external evaluator nominated by CTEVT.
- Provision of re-examination will be as per CTEVT policy.

d. Final practicum evaluation will be based on:

- Institutional practicum attendance - 10%
- Logbook/Practicum book maintenance - 10%
- Spot performance (assigned task/practicum performance/identification/arrangement preparation/measurement) - 40%
- Viva voce :
 - Internal examiner - 20%
 - External examiner - 20%

e. Pass marks:

- The students must secure minimum 40% marks in theory and 50% marks in practical. Moreover, the students must secure minimum pass marks in the internal assessment and in the semester final examination of each subject to pass the subject.

Provision of Back Paper

There will be the provision of back paper but a student must pass all the subjects of all year within six years from the enrolment date; however there should be provision of chance exam for final year students as per CTEVT rules.

Disciplinary and Ethical Requirements

- Intoxication, insubordination or rudeness to peers will result in immediate suspension followed by the review of the disciplinary review committee of the institute.
- Dishonesty in academic or practical activities will result in immediate suspension followed by administrative review, with possible expulsion.
- Illicit drug use, bearing arms in institute, threats or assaults to peers, faculty or staff will result in immediate suspension, followed by administrative review with possible expulsion.

Grading System

The following grading system will be adopted:

- Distinction: 80% and above
- First division: 65% to below 80%
- Second division: 50 % to below 65%
- Pass division: Pass marks to Below 50%

Certification and Degree Awards

- Students who have passed all the components of all subjects of all 3 years are considered to have successfully completed the program.
- Students who have successfully completed the program will be awarded with a degree of "**Certificate in Health Science (Ayurveda)**".

Career Opportunity

The graduates will be eligible for the position equivalent to Non-gazetted 1st class/level 5 (technical) as " **Ayurveda** " or as prescribed by the Public Service Commission or the concerned authorities of Nepal. The graduates would be eligible for registration with the Nepal Ayurveda Medical Council in the category as mentioned in the Act of the Council.

Course structure for PCL in Health Science (Ayurveda)
First Year

S N	Subjects	Mode			Distribution of Marks						Total Marks
		T	P	Total	Theory			Practical			
					Internal	Final	Exam Hour	Internal	Final	Exam Hour	
1	English	3	0	3	20	80	3	-	-	-	100
2	Nepali	3	0	3	20	80	3	-	-	-	100
3	Social Studies	2	0	2	10	40	1.5	-	-	-	50
4	Anatomy & Physiology	4	1	5	20	60	3	10	10	3	100
5	Physics	4	2	6	20	60	3	10	10	3	100
6	Chemistry	4	2	6	20	60	3	10	10	3	100
7	Zoology	3	2	5	20	60	3	10	10	3	100
8	Botany	3	2	5	20	60	3	10	10	3	100
9	Mathematics & Statistics	4	1	5	20	60	3	10	10	3	100
	Total	30	10	40	170	560		60	60		850

Second year

S.N	Subject	Mode		Total	Distribution of Marks						Total Marks
		T	P		Theory			Practical			
					Inter nal	Final	Exam Hour	Inter nal	Final	Exam Hour	
1	Sanskrit	2	-	2	10	40	2	-	-	-	50
2	Maulika Siddhanta Tatha Shareera	3	1	4	15	60	3	10	15	3	100
3	3.1. Dravyaguna- Vigyan and Pharmacology I	3	0	3	15	60	3				75
	3.2. Dravyaguna- Vigyan and Pharmacology (Medicinal Plants) II	3	0	3	15	60	3				75
	3.3 Dravyaguna- Vigyan and Pharmacology	0	3	3	0	0	0	30	45	3	75
4	Rasashastra	3	1	4	15	60	3	10	15	3	100
5	Bhaishajya-Kalpana	3	1	4	15	60	3	10	15	3	100
6	Epidemiology, CH Diagnosis, PH Care and First Aid	3	2	5	15	60	3	20	30	3	125
7	Vikriti-Vigyan	3	1	4	15	60	3	10	15	3	100
8	Swasthavritta	4	1	5	20	80	3	10	15	3	125
9	Health Care Systems and Health Management	2	1	3	10	40	2	10	15	3	75
	Total	29	11	40	145	580		110	165		1000

Third year

S.N	Subject	Mode		Total	Distribution of Marks						Total Marks
		T	P		Theory			Practical			
					Internal	Final	Exam Hour	Internal	Final	Exam Hour	
Part I: Total Duration : 32 Weeks											
1	1.1 Roga-nidana and Kayachikitsa I	4	0	4	15	60	3	0	0	0	75
	1.2 Roga-nidana and Kayachikitsa II	4	0	4	15	60	3	0	0	0	75
	1.3 Roga-nidana and Kayachikitsa	0	3	3	0	0	0	20	30	3	50
2	Shalya- Tantra	3	2	5	10	40	1.5	10	15	3	75
3	Shalaky-Tantra	4	1	5	15	60	3	10	15	3	75
4	Prasuti and Striroga-Vigyan	4	2	6	15	60	3	10	15	3	100
5	Balaroga	3	1	4	10	40	1.5	10	15	3	75
6	General Medicine	3	1	4	10	40	1.5	10	15	3	75
7	Community Medicine	3	1	4	10	40	1.5	10	15	3	75
	Sub Total of Part I	28	11	39	100	400		80	120		675
Part II: Total Duration: 14 Weeks											
						Clinical Site Incharge		Institute	Final		
8	Clinical Practice (12 weeks)	12 Weeks Full Time				100	100	75			275 *
9	Comprehensive Field Practice (2 weeks)	2 Weeks Full Time					25	25			50 *
	Sub Total of Part II					100	125	100			325
Grand Total											1000

Details on the distribution of marks for clinical practice and field practice evaluation are mentioned in the respective sections of the curriculum.

Instructions for program coordinator/ institute

- Virtually, there is no provision of vacation for third year students.
- The practical classes of Rasashastra and Bhaishajya-kalpana could be carried out jointly.
- The weekly hour allocated for practical part of Health Care Systems and Management can be internally adjusted to theory part as required.

First Year

(Please see separate curriculum for General Health Science First Year all)

Second Year

Subjects:

- Sanskrit
- Maulik Siddhanta and Shareera
- Dravyaguna Vigyan and Pharmacology
- Rasa Shastra
- Bhaisyajya Kalpana (Ayurvedic Pharmacy)
- Epidemiology, Community Health Diagnosis, Primary Health Care and First Aid
- Vikriti Vigyan
- Swasthyavritta
- Health Care System and Management

संस्कृत (Sanskrit)

पाठ्यभार: ७८ घण्टा

सैद्धान्तिक: ७८ घण्टा

पाठ्यवस्तुको विवरण :

यस पाठ्यांश अन्तर्गत विद्यार्थीहरूले संस्कृत व्याकरण, वाक्य रचना तथा आयुर्वेद सुभाषित साहित्य, अमरकोष एवं हितोपदेशको अध्ययन गर्नेछन् ।

पाठ्यक्रमकोउद्देश्य :

यो पाठ्यांश पढिसकेपछि विद्यार्थीहरू निम्न बमोजिम विषयवस्तुहरू अध्ययन गर्न र भन्न एवं लेख्न सक्नेछन् :

- संस्कृतका स्वर तथा व्यञ्जन वर्णको परिचय दिन ।
- नाम, आख्यात, उपसर्ग र निपातको अध्ययन / प्रयोग गर्न ।
- नाम : सन्धि, सुबन्त पद (लिङ्ग, वचन, विभक्ति)को प्रयोग गर्न ।
- कारक, समास र कृत्, तद्धित र स्त्रीप्रत्ययहरूको अध्ययन र प्रयोग गर्न ।
- आख्यात(तिङन्त)को अध्ययन र प्रयोग ।
- उपसर्ग र निपात(अव्यवसहित) को अध्ययन र प्रयोग ।
- संस्कृत भाषामा वाक्य रचना र वाक्यान्तरण पद्धतिको अध्ययन र प्रयोग ।
- वैद्यकीयसुभाषितसाहित्य, अमरकोष (वनौषधिवर्ग) र हितोपदेशको सामान्य ज्ञानका साथै आयुर्वेदका मौलिक ग्रन्थतथातिनका संस्कृत टीकाहरूको परिचय ।

एकाई १ : व्याकरण खण्ड

२५ घण्टा

१.१ संस्कृतका स्वर वर्ण र व्यञ्जनवर्णको परिचय

- (क) संस्कृतका १४ वटा स्वर वर्णको स्थान र प्रयत्नको अध्ययन र प्रयोग
(ख) संस्कृतका ३३ व्यञ्जन वर्णहरूको स्थान र प्रयत्नको अध्ययन र प्रयोग
(ग) आवश्यक प्रत्याहारको सामान्य जानकारी

१.२ संस्कृत नामको अध्ययन

१.२.१ निम्न सन्धिको अध्ययन र प्रयोग

- (क) अच्सन्धि (ख) हल्सन्धि (ग) विसर्गसन्धि

२ : २ सुबन्त पदको अध्ययन र प्रयोग

लिङ्ग, वचन र विभक्तिको अध्ययन र निर्धारित शब्दहरूको रूपावली, तिनको निर्माण प्रक्रियाको जानकारी ।

(क) अजन्त (स्वरान्त) शब्द

अजन्त-पुलिङ्ग - राम, हरि, भानु, पितृ ।

अजन्त-स्त्रीलिङ्ग - रमा, नदी, धेनु, मातृ ।

अजन्त-नपुंसकलिङ्ग - फल, वारि, मधु ।

(ख) हलन्त (व्यञ्जनान्त) शब्द

हलन्त-पुलिङ्ग - राजन्, महत्

हलन्त-स्त्रीलिङ्ग - पुर

हलन्त-नपुंसकलिङ्ग - मनस्

(ग) सर्वनाम शब्दहरू - सर्व युष्मद्, अष्मद्, इदम्, अदस्, किम्, तत् (तीनै लिङ्गमा) ।

१.३ उपसर्ग र निपात (अव्यय) शब्दहरूको परिचय, अर्थको ज्ञान र प्रयोग ।

(क) उपसर्ग - प्र, परा, अप, सम्, अनु, अव, निस्, निर, दुस्, दुर, वि, आड, नि, अधि, अपि, अति, सु, उत्, अभि, प्रति, परि, उप ।

(ख) निपात (अव्यय) शनैः, स्वतः, अद्य, अतः, अधः, इव, पुनः, प्रातः, यथा, सहसा, पृथक्, भूयोभूयः, बहिः, भृशम्, सह, पश्चात्, सहसा

१.४ आख्यात (तिङन्तपद) - लकार र तिङन्त विभक्तिको परिचय, काल, पुरुष, र वचनको जानकारी, सकर्मक, अकर्मक, परस्मैपदी, आत्मनेपदी र उभयपदी धातुको परिचय । निम्नलिखित धातुहरूका लट्, लृट्, लोट् र लङ् लकारका रूपहरू -

भ्वादि - भू, गम्, दृश्, पा, घ्रा, वद्, श्रु, लभ्, वह, नी ।

अदादि - हन्, विद्, शीङ्, अद्, पा ।

जुहोत्यादि - हु, दा, भी ।

दिवादि - सिव्, नृत् ।

श्वादि - सु, चि ।

तुदादि - तुद्, मिल, इष्, पृच्छ् ।

रुधादि - भिद्, भुज् ।

तनादि - कृ, तन् ।

ऋचादि - क्री, ज्ञा ।

चुरादि - चुर, कथ्, चिति ।

१.५ कारक, समासर विभिन्न प्रत्ययहरूको अध्ययन र प्रयोग ।

(क) कारक र विभक्तिको अध्ययन र प्रयोग ।

(ख) समासको परिचय, प्रकार, शब्द निर्माण र प्रयोग ।

(ग) कृत् प्रत्ययको अध्ययन । निम्न लिखित प्रत्ययबाट बनेका शब्दहरूको ज्ञान र प्रयोग :

तव्यत्, अनीयर्, यत्, ण्वल्, तृच्, अण्, तुमुन्, क्तिन्, क्त्वा, ल्यप्, क्त, क्तवत् ।

(घ) तद्धित प्रत्ययहरूको अध्ययन । निम्नलिखित प्रत्ययहरूको योगले बनेका शब्दहरूको ज्ञान र प्रयोग :

अण्, ण्य, फ, ढक्, ठक्, त्व, तल्, मयट्, इन्, त्रल्, तरप्, तमप्, च्वि, ख, छ ।

(ङ) निम्न लिखित स्त्रीप्रत्ययको अध्ययन र प्रयोग:

टाप्, डीप्, डीष् ।

(नोट - कारक र विभक्तिको परिचय, वाक्यरचनामा तिनको भूमिकाका विषयमा विशेष जानकारी गराउने । ६ वटै समासको परिचय, शब्द निर्माण र अर्थ सम्पादनमा समासको महत्त्व र उपयोगिताका बारेमा विशेष बोध गराउने । शब्द निर्माणमा कृत् र तद्धित प्रत्ययको महत्त्व, कृदन्तीय वाक्य रचना पद्धतिका बारेमा विशेष जानकारी गराउने । स्त्रीप्रत्ययको परिचयका साथै उक्त प्रत्ययहरूको योगले बनेका शब्दहरूको ज्ञान र प्रयोग सिकाउने । वैद्यकीय सुभाषित र हितोपदेश पढाउँदा व्याकरणको प्रयोग कसरी भएको छ सिकाउने)

एकाइ- २ :संस्कृत वाक्य विन्यास, अनुवाद र रचना**२५ घण्टा**

वाक्यरचनाको परिचय तथा कर्ता, कर्म,क्रिया, विशेष्य-विशेषण, कर्तृवाच्य, कर्मवाच्य र भाववाच्यको सामान्य जानकारीसहित संस्कृतभाषामा सामान्यवाक्य-रचना

२.१ संस्कृत वाक्यविन्यास पद्धतिको परिचय र प्रयोग

(क) सरल, संयुक्त र मिश्र वाक्यको परिचय र प्रयोग

(ख) कर्तृ, कर्म र भाव वाच्यको परिचय र प्रयोग

(ग) कृदन्तीय वाक्यविन्यास पद्धतिको परिचय र प्रयोग

(घ) पदसंगतिको परिचय र प्रयोग (वचन, पुरुष, काल, लिङ्ग, विशेष्य-विशेषण, क्रिया आदि)

(ङ) वाक्यान्तरण प्रक्रियाको परिचय र प्रयोग

(वाच्य परिवर्तन, वचन, पुरुष र काल परिवर्तन, सरल वाक्यलाई संयुक्त र मिश्रमा,

संयुक्तलाई सरल र मिश्रमा, मिश्रलाई सरल र संयुक्तमा, तिङन्तीय वाक्यलाई कृदन्तीय

वाक्यमा परिवर्तन ।)

२.२ अनुवाद (नेपालीबाट संस्कृतमा र संस्कृतबाट नेपालीमा अनुवाद)

२.३ संस्कृतमा सरल निबन्ध र कथाको रचना । (निबन्ध ५ र कथा ५ ।)

२.४ हितोपदेश मित्रलाभको शुरुका ५ वटा कथा गद्यभाग मात्र

एकाइ-३ : वैद्यकीय साहित्य**२८ घण्टा**

३.१ वैद्यकीयसुभाषितसाहित्यम्कानिम्नलिखित श्लोकहरुको अर्थ र पाठ

भावार्थ एवं त्यसको व्याख्या:

अध्याय	श्लोक संख्या	अध्याय	श्लोक संख्या
१	१, २, ४	२२	१, २
२	१, २,	२३	१०, २३
३	९, १२,	२४	१, २
४	१, २,	२५	२२, २७
५	३, २०,		२५ सम्म राख्ने र गद्यभाग थप गर्ने
६	३, ४		
७	२, १३		
८	१०		
९	२, ३, १४		
१०	१, ८, १४		
११	१, १५		
१२	२, ६		
१३	१, ८, १५, १६		
१४	९		
१५	१४		
१६	९		
१७	१, १३		
१८	१२, १६, २८		
१९	२, ६		
२०	१, ७, २२		

२१	५, ६		

३.२ अमरकोष - वनौषधिवर्ग ।

३.३ हितोपदेश - प्रस्तावना तथा मित्रलाभको शुरुका ५ वटा कथा मात्र ।

३.४ अथर्ववेद, (चिकित्सा विषयक अंशमात्र) सुश्रुतसंहिता, चरकसंहिता, वाग्भटको अष्टाङ्गसंग्रह, चन्द्रनिघण्टुको सामान्य परिचय ।

पाठ्यपुस्तकहरू:

- क) नेपाली संस्कृत व्याकरण (सम्बद्धअंशमात्र), पार्थमणि आ. दी.
- ख) अनुवाद चन्द्रिका, (प्रथमप्रकाश) सोमनाथशर्मा सिग्दाल, पुस्तक संसार, काठमाण्डौं, नेपाल ।
- ग) संस्कृतशिक्षणाभ्यास (भाग १), नीलमणि दुङ्गाना, महेन्द्र संस्कृत विश्वविद्यालय, नेपाल ।
- घ) वैद्यकीयसुभाषितसाहित्यम् (सम्बद्धअंशमात्र), डा. भाष्करगोविन्द घाणेकर, चौखम्बा विद्याभवन, वाराणसी ।
- ङ) वैद्यकीयसुभाषितसाहित्यम् (नेपाली भावानुवादसहितम्) डा. काशीराज शर्मा सुवेदी
- च) हितोपदेश (सम्बद्धअंशमात्र), विष्णु शर्मा
- च) अमरकोष (सम्बद्धअंशमात्र), अमरसिंह

सन्दर्भग्रन्थहरू :

- क) अनुवाद चन्द्रिका, (१-४ भाग) सोमनाथशर्मा सिग्दाल, (पुस्तक संसार, काठमाण्डौं) नेपाल ।
- ख) संस्कृतशिक्षणाभ्यास (१-२ भाग), नीलमणि दुङ्गाना, नेपाल संस्कृत विश्वविद्यालय, नेपाल ।
- ग) संस्कृत व्याकरणोदय, जयमन्त मिश्र, चानैखम्बा विद्याभवन, वाराणसी, भारत ।
- घ) लघु सिद्धान्त कौमुदी, वरदराज, महेन्द्र संस्कृत विश्वविद्यालय, नेपाल ।
- ङ) रूपचन्द्रिका, रामचन्द्र भ्वा, चौखम्बा संस्कृत सिरिज, वाराणसी, भारत ।
- च) अनुवाद प्रकाशिका, बदरिनाथ भट्टराई, साभा प्रकाशन, ललितपुर, नेपाल ।

MAULIK SIDDHANTA & SHAREERA

Total Hours:	156 hrs (4 hrs/week)
Theory:	117 hrs (3 hrs/week)
Practical:	39 hrs (1 hr/week)

Course description

This course is designed to provide students the knowledge and skills about the basic principles of Ayurveda and description of Shareera in Ayurveda. It also includes the general knowledge of the chronological development and history of Ayurveda.

Course objectives

After the completion of the course the students will be able to:

1. Explain Dosha, Dhatu and Mala, Ojas, Agni, Shareera (body), Mana (mind), and Indriya (sense organs) with their types, properties/qualities and functions in normal as well as abnormal states.
2. Explain the physiological and pathological state of Dosha and Dushyas.
3. Describe the causative role of Dosha-Dhatu-Malas for health and illness.
4. Define Jeevaatma, Garbha, Shareera, Prakriti and Vikara.
5. Describe the Avyakta and origin of universe, formation of Shareera and its developments from Ayurvedic point of view.
6. Explain Twacha, Kalaa, Peshi, Asthi, Sandhi, Snayu, Sira, Dhamani, Ashaya, Srotas, and Marma.
7. Describe history and chronological development of Ayurveda and Charaka, Sushruta, Kaashyapa, Vagbhata etc. Samhita-granths.

Theory

Unit- 1: Doshas:

18 hrs

- 1.1: Shareera, Chikitsya-purusha, Shareera-dosha and Manasa-dosha; the reasons for naming Dosha, Dhatu and Mala.
- 1.2: Formation of Tridosha from Panchamahabhutas, Vata, Pitta and Kapha as main constituents/components of the body and locations, different stages and movements of each of Tridosha.
- 1.3: Vata, Pitta and Kapha on etymological basis, Vata, Pitta and Kapha with Anila, Surya and Soma in nature.

Unit- 2: Vata, Pitta and Kapha Doshas:

17 hrs

- 2.1: Naisargika-gunas (physiological or natural qualities/properties) and features/symptoms of Vata, Pitta and Kapha Doshas separately, Yogavahi property of Vata.
- 2.2: Main locations and functions of Vata, Pitta and Kapha Doshas in their natural/normal state in living body.
- 2.3: Vata, Pitta and Kapha their types, locations and functions of each types in the body.
- 2.4: Features (signs and symptoms) of increased and diminished/decreased states of Vata, Pitta and Kapha in the body.

- 2.5: Causes of Prakopa (aggravation) and features (signs and symptoms) of Prakupita Vata, Pitta and Kapha in the body.
- 2.6: Sanchaya (accumulation), Prakopa (aggravation) and Prashamana (pacification) of Doshas relating to day, night, season and intake of food.
- Unit- 3: Dushyas (Dhatu and Mala):** **10 hrs**
- 3.1: Dushyas: Dhatu, Upadhatu and Malas.
- 3.2: Order of formation of Saptadhatu and their nutrient factors, relation of Panchamahabhutas in the formation of Dhatu, Upadhatu and Malas.
- 3.3: Different Nyaya (theories) namely Kedarikulya Nyaya, Kshiradadhi Nyaya and Khalekapota Nyaya regarding the formation of Rasadi Dhatus.
- 3.4: Causes and features (signs and symptoms) of increased and diminished/decreased states of Dhatu, Upadhatu and Malas.
- Unit- 4: Agni, Ojas and Prakriti:** **6 hrs**
- 4.1: Agni, Jatharagni or Pachakagni, Dhatwagni and Panchabhutagni, their functions and role of Vipaka in the formation of Rasa-dhatu.
- 4.2: Vatadi Prakriti: features (signs and symptoms) of individuals of Vatadi Prakarti.
- 4.3: Ojas: different views about Oja.
- Unit-5: Panchavimshati-tatwa:** **10 hrs**
- 5.1: Shareera: scope and importance of Shareera-shastra and Shavacchhedana (dissection) for practical exposure.
- 5.2: Avyakta, Purusha & Prakriti, : origin and features of Saptaprakriti & Ashtaprakriti.
- 5.3: Shodasha-vikara: origin and symptoms/features of Panchakarmendriya, Panchajnanendriya and Panchamahabhuta, difference between Indriya and Indriyadhishthana..
- 5.4: Panchavimshati-tatwa, similarities & dissimilarities between Prakriti & Purusha.
- 5.5: Mana, Shaddhatupurusha and Karmapurusha, Satwa-Raja-Tama Guna of Mana.
- Unit- 6: Garbha and Shareera:** **16 hrs**
- 6.1: Prana, Garbhashareera and Shadanga shareera: formation of Shukra and Shonita from Panchamahabhuta, Aartava (menstrual blood), Prajananakala (reproductive period), Ritukaala.
- 6.2: Rhitumati charya, Garbhaavatarana-krama, immediate and late symptoms/features of pregnant woman and contraindications to pregnant woman after conception.
- 6.3: Monthwise foetal development and different views about the factors responsible for the development and growth of foetus and foetal life, Matrija-Pitrija-Rasaja-Atmaja Bhavas of the body, always growing and never growing organs in the body, reasons of not passing urine, stool and not weeping in foetal life.
- Unit- 7: Twacha:** **20 hrs**
- Twacha (skin), Kalaa (membrane), Peshi (muscle), Asthi (bone), Sandhi (joints), Snaayu, Sira, Dhamani, Ashaya, Srotas, Navadwara, Marma (vital parts) of the body with their types.
- Unit-8: History of Aurveda**
- a. Prachina-kala (ancient period), Vaidik-kala, Samhita kala, origin and development of Ayurveda in Vaidik-kala, Charaka, Sushruta & Kashayapa samhitas. **9 hrs**

- b. Bouddha-kala and Madhyamik-kala; position of Ayurveda in Bouddha-kala and Madhyamik-kala, Briddha-vagbhata, Vagbhata, Nagarjuna and their Kritis. **5 hrs**
- c. Adhunik-kala (modern period), development of Ayurveda in Adhunik-kala and current position of Ayurveda in Nepal with brief history of Ayurveda hospital, Singhadurbar Vaidyakhana. **6hrs**

Practical

Perform the following tasks:

- Unit- 1: Illustrate the Following Asthi (bones) in Ayurvedic terms: 10 hrs**
 Kapalaasthi, Merudandakasthi, Parshukasthi,
 Urdhwashakhasthi Adhoshakhasthi.
- Unit- 2: Illustrate the Following Anga-Avayavas in Ayurvedic terms: 18 hrs**
 Paachana-pranaali Angas, Hridaya-raktasanchara Kriya, Yakrit, Pliha, Vrikka, Mashtiska, Sushumna, Stri-jananendriyas and Purusha-jananendriyas (male and female reproductive organs).
- Unit- 3: Tabulate, Assess & Identify the Characteristics of Following Prakritis' of Individuals: 11 hrs**
 Vaata Prakriti, Pitta Prakriti, Kapha Prakriti,
 Dwandaja Prakriti and Sama Prakriti.

Text Books :

1. *Ayurvedaka Itihas Evam Parichaya: Vidyadhara Shukla and Ravi Datta Tripathi, Delhi, India.*
2. *Ayurvediya Maulik Siddhanta Tatha Sankshipta Shaareer: Ramnath Bhattarai, TU, Kathmandu.*
3. *Ayurvedako Brihat Itihas: Pro.Dr. Chandraraj Sapkota, Ayurveda Campus Kirtipur.*

Reference Books:

1. *Ayurvedako Maulik Siddhantaharu, Dr. Thakur Raj Adhikari, Kathmandu, Nepal.*
2. *Tridosha tatva vimarsha, Ram Raksha Pathak, Vaidyanath Ayurved Bhavan, Patna.*
3. *Ayurvediya kriya shaareera, Ranajeet Roy Deshain, Shree Vaidyanath Ayurved Bhawan.*
4. *Pratyaksha Shaareera (Vol.I & II), Gananath Sen, Chaukhamba Sanskrit Series.*
5. *Sushruta samhita (Shareerasthana) with Hindi commentry, Dr. Bhaskara Govinda Ghanekar, Meharachanda Lakshmanadas Publications, Dariyagunj, New Delhi, India.*
6. *Relevant portions of Kashyapa Samhita with introduction by Nepal Rajguru late Hemraj Sharma.*
7. *Sutrasthana, Sharirasthana and other relevant portions of Charaka-samhita, Asthanga-sangraha, Ashtanga-hridaya with Nepali, Hindi or English translations.*

DRAVYAGUNA VIGYANA & PHARMACOLOGY

Total Hours:	351 hrs (9 hrs/week)
Theory:	234 hrs (6 hrs/week)
Practical:	117 hrs (3 hrs/week)

Course Description:

This course is designed to provide students the knowledge and skills about Dravyaguna vigyana and pharmacology. It deals with basic principles and concepts of Ayurvedic pharmacology as well as identification, properties, actions and uses of medicinal plants. It also incorporates general knowledge about essential drugs used in primary health care level.

Course Objectives:

After completion of the course the students will be enabled to:

1. Define Dravyaguna vigyana, Pharmacology and Saptapadārtha.
2. Define Dravya & drug and explain its medicinal value and Panchabhautic attributes.
3. Enlist names, main uses and dose of various Gana (groups) of Dravyas.
4. Define Guna & explain the types & importance of Guna.
5. Differentiate between Bhautika & Karmuka groups of Guna, Gurvadi twenty Guna & their effects on Doshas.
6. Explain Rasa, Veerya, Vipaka, and Prabhava with their types.
7. Define Karma and explain types, mechanism of drug action and factors responsible for the action of a drug.
8. Explain Bhesaja and Bhesaja-prayoga: absorption, distribution, metabolism and excretion of drugs.
9. Describe the basis of nomenclature and parts used in medicine.
10. Explain the types of land, ideal land, availability of medicinal plant in various geographical regions of Nepal.
11. Describe the aspects to be considered for cultivation & propagation of medicinal plants.
12. Familiarize with the way of biodiversity conservation.
13. Explain indications, contra-indications, dose, uses and side effects of the essential drugs.
14. Enlist essential Ayurveda drugs for Ayurveda dispensaries and service centres.
15. Explain the identifying characteristics of medicinal plants.

Dravyaguna-vijnana and Pharmacology (Basic concepts)- I

Total Hours: 117 hrs (3 hrs/week):

Theory

Unit 1: Introduction to Dravyaguna-vigyan and Pharmacology: **10 hrs**

1.1: Dravyaguna vigyan:

- Definition, Scope, origin and history.
- Saptapadartha (seven components: Dravya, Rasa, Guna, Virya, Vipaka, Karma and Prabhava)

1.2. Definition of Shadpadartha: Dravya, Guna, Karma, Samanya, Vishesha and Samavaya.

1.3. Definition of Pharmacology.

Unit 2: Dravya (Drugs): **10 hrs**

2.1: Dravya, its medicinal value and Panchabhautic attributes; definition of drug.

2.2: Dravyas from following aspects/basis.

- Karya-karana, Chetana, Origin and source, Life or age, Size shape, Place Panchabhautic composition, Rasa, Veerya, Vipaka,
- Effects on Dosha/Dhatu, Actions & Utilization.

2.3: Names, main uses and dose of the following Gana (group) of Dravyas:

Triphala	Trikatu	Trimada	Trijataka
Chaturjata	Chaturushana	Chaturbeeja	Chatusneha
Panchakola	Panchatikta	Panchatrinamoola	Panchavalkala
Panchapallava	Laghupanchamoola	Brihatpanchamoola	Kantakapanchamoola
Shadushana	Ashtavarga	Dashamoola	Jeevaniyagana
Upavisha			

Unit 3: Guna-Karma (Properties of drugs): **18hrs**

3.1: Guna: types & importance of Guna, general & specific meaning of Guna, difference between Bhautika (physical) & Karmuka (pharmacological) groups of Guna.

3.2: Gurvadi twenty Guna and their effects on Doshas.

3.3: Rasa: 6 types of Rasa and Panchabhautic composition, Guna-karma (properties and actions), Dosha-karma (effects of 6 Rasas on Tridosha), Relation between 6 Rasas and 6 seasons (Ritu).

3.4: Veerya, 2 types of Veerya and effects of Veerya on Tridosha.

3.5: Vipaka, 3 types of Vipaka and effects of Vipaka on Tridosha.

3.6: Prabhava with examples, mutual relation of Rasa, Guna, Veerya, Vipaka and Prabhava residing in Dravya.

Unit 4: Karma (Actions and Effects of Drugs): **15hrs**

4.1: Karma: Definition and types.

4.2: Mechanism of drug action and factors responsible for the action of a drug, classification of the actions of drugs.

4.3: Definition of the following terms with examples of Dravya:

Deepana	Pachana	Shamana	Stambhana
Grahi	Anulomana	Sramsana	Bhedana
Chhedana	Lekhana	Ropana	Prasadana
Medhya	Hridya	Varnya	Kantha
Santarpana	Apatarpana	Brimhana	Langhana
Rasayana	Vajikarana	Sandhaniya	SnehanaSwedana
Mutrala	Mutrasangrahaniya	Vedanasthapana	Shulaprashamana
Kasahara	Shwasahara	Shothahara	Kandughna
Krimighna	Vishaghna	Rakshoghna	Jivaniya
Stanyajanana	Vyavayi	Vikashi	Madakari
Yogavahi	Vamana	Rechana	Shirovirechana
Shodhana	Pittasaraka	Balya	Keshya
Raktastambhana	Ojovardhaka	Ashmaribhedana	Chakshusya

Unit 5: Bheshaja-prayoga (Use of Drugs): 20 hrs

- 5.1: Bheshaja (ideal drug) and Bheshaja-prayoga, aims and objectives of using medicines, a prescription.
- 5.2: The factors to be considered before and during the use of drugs, absorption, distribution, metabolism and excretion of drugs.
- 5.3: Combination, suitability, incompatibility, synergism, antagonism, reaction and side effects of drugs.
- 5.4: Bheshaja-kala (time and duration of drug administration).
- 5.5: Bheshaja-marga (routes) and Bheshaja Prayoga-vidhi (methods of drug administration), route selection of drug administration.
- 5.6: Dosage and posology, common dose and specific dose, the factors to be considered for determination of dose.
- 5.7: Anupana, Sahapana, Pathya and Apathya, contra-indications and precautions for drug administration.

Unit 6: Identification, Conservation, Collection & Storage of Dravya: 15hrs

- 6.1: The basis of nomenclature and parts used in medicine, ideal drug.
- 6.2: Types of land, ideal land, availability of medicinal plant in various geographical regions of Nepal.
- 6.3: Source, method and time/season of collection, drying, preservation and storage of medicinal plants, herbarium collection and preparation.
- 6.4: Basis of selection of medicinal plants for cultivation and propagation, method of cultivation and various aspects to be considered for cultivation of medicinal plants.
- 6.5: Biodiversity conservation, the method of conservation, data collection and research on medicinal plants.

Unit 7: Essential Drugs: 34hrs

- 7.1: Essential drugs: Definition and importance.
- 7.2: Essential drugs for health post & primary health care level, Indications, contra-indications, dose, uses and side effects of these essential drugs:
Amoxycillin Albendazole Aluminium hydroxide + Mg hydroxide

Aminophylline	Ascorbic acid	Acetylsalicylic acid (Aspirin)
Atenolol	Atropine	Beczylbenzoate
Calamine lotion	Benzoic acid + salicylic acid	
Cetrimide	Charcoal (activated)	Chloramphenicol
Chlorhexidine	Chloroquine	Chlorpheniramine
Ciprofloxacin	Clofazimine	Clove oil
Cycloserine	Dapsone	Dexamethasone
Diazepam	Diethylcarbamazine	Ephedrine
Epinephrine	Ergocalciferol	Ergometrine
Ferrous salt + Folic acid		Ethambutol
Ethionamide	Ethinylestradiol+levonorgestrel	
Ferrous salt	Erythromycin	Ethinylestradiol + norethisterone
Formaldehyde	Frusemide	Gentian violet
Glucose injectable	Hydrochlorthiazide	Glucose with sodium chloride
Hyoscine butylbromide	Ibuprofen	Iodine
Isoniazid	Lindane	Isoniazid + Rifampicin
Isoniazid + Thiacetazone	Lignocaine	Magnesium sulfate
Mercurochrome	Metronidazole	Medroxyprogesterone acetate
Methylated spirit	Nicotinamide	Oral rehydration salt
Para-amino salicylic acid		Paracetamol
Phenoxy-methy-penicillin		Phenaramine
Potassiumpermanganate		Primaquine
benzyl penicillin		Pyridoxine
Ringer's lactate		Promethazine
Sodium bicarbonate 1% + Glycerine 5%		Procaine
Sulfacetamide		Riboflavin
Tetracycline		Rifampicin
Water for injection		Salbutamol
		Salicylic acid
		Streptomycin
		Tetanus toxoid
		Trimethoprim
		Tiacetazone + Isoniazid
		Dextrose 5 %

Unit 8: Groups of essential Ayurveda drugs (single and compound formulations) for Ayurveda dispensaries and service centre: 10 hrs

- | | | |
|-------------------------|----------------------------|-------------------------------|
| 1. Ajirnahara | 2. Atisaraghna | 3. Apasmarahara |
| 4. Agnidagdhashamaka | 5. Amlapittaghna | 6. Arshadi Gudavikarahara |
| 7. Netrarogahara | 8. Aghatahara | 9. Amavatahara |
| 10. Unmadahara | 11. Karnarogahara | 12. Kamalahara |
| 13. Kasahara | 14. Krimighna | 15. Gandamalahara |
| 16. Gridhrasihara | 17. Charmarogaghna | 18. Jwarahara |
| 19. Pandurogaghna | 20. Pinasa/Pratishyayahara | 21. Pravahikahara |
| 22. Pakshaghatahara | 23. Balya/ Daurbalyahara | 24. Pramehahara |
| 25. Mukharogahara | 26. Dantarogahara | 27. Mutrarogahara |
| 28. Yakritpliharogahara | 29. Rajovikarahara | 30. Raktabharajanyavikarahara |
| 31. Raktapradaranashaka | 32. Raktapittahara | 33. Vataraktahara |
| 34. Vibandhahara | 35. Vishamajwarahara | 36. Sheetapittahara |
| 37. Shirorogahara | 38. Shoolahara | 39. Shothahara |
| 40. Shwasahara | 41. Shwitranashaka | 42. Shlipadanashaka |
| 43. Shwetapradarahara | 44. Sutikarogaghna | 45. Hridayarogahara |

46. Vishanashaka
49. Hikkashamaka
52. Vedanahara

47. Balarogahara
50. Masurikahara
53. Vranahara

48. Chhardirogahara
51. Sthaulyanashaka
54. Vipadikahara

Dravyaguna-vigyana and Pharmacology (Medicinal Plants) - II

117 hrs (3 hrs/week):

Theory

Unit 1: Medicinal Plants:

38 hrs

Sanskrit, Latin and local names, family, general introduction (identifying characteristics), geographical distribution, parts used, Rasa, Guna, Veerya, Vipaka, Prabhava, actions, indications, doses, uses & common preparations of following medicinal plants:

Arjuna	Ashwagandha	Asana	Amalaki	Aragvadha
Eranda	Katuka	Kanchanara	Kiratatikta	Kutaja
Kumari	Khadira	Guggulu	Guduchi	Jatamansi
Jyotishmati	Tulasi	Daruharidra	Nimba	Pashanabheda
Pippali	Punarnava	Bhumyamalaki	Mandukaparni	Yashtimadhu
Rasona	Vacha	Varuna	Vasaka	Vidanga
Shatavari	Shirisha	Sahadevi	Haridra	Haritaki

Unit 2: Medicinal Plants:

37 hrs

Sanskrit, Latin and local names, general identifying characteristics, geographical distribution, parts used, Rasa, Guna, Veerya, Vipaka, indications, doses, uses & common preparations of following medicinal plants:

Ativisha	Apamarga	Ashoka	Asthisamhari	Ardraka/ Shunthi
Udumbara	Kankola	Katphala	Kantakari	Kapikachchhu
Kampillaka	Karanja	Karpoora	Kakamachi	Karkatashringi
Gojihva	Gokshura	Chakramarda	Chitraka	Jatiphala
Jiraka	Talisapatra	Dronapushpi	Dhataki	Dhanyaka
Nagapushpa	Nirgundi	Patha	Parijata	Bakula
Bala	Bakuchi	Bibhitaka	Bilva	Bhringaraja
Manjishtha	Maricha	Mustaka	Yavani	Madhunashini
Rasna	Rudraksha	Rohitaka	Latakasturi	Lavanga
Lodhra	Vidarikanda	Shati	Vamshalochana	Shalmali
Shigru	Shyonaka	Swetachandana	Saptaparna	Sariva
Swarnapatri	Trivrit			

Unit 3: Medicinal Plants:

30 hrs

Sanskrit, Latin and local names, general identifying characteristics, geographical distribution, parts used, indications, doses & common preparations of following medicinal plants:

Agnimantha	Aparajita	Amlavetasa	Ashwagola	Ashwattha
Akshotaka	Amra	Ikshu	Upakunchika	Usheera
Erandakarkati	Kadali	Karavellaka	Kasha	Ela (Brihadela)
Kasamarda	Kulattha	Kusha	Kushmanda	Gandhapoora
Gambhari	Chandrashura	Changeri	Jambu	Jati
Tagara	Tanduliyaka	Tila	Tumburu	Tejapatra
Damanaka	Dadima	Darusita	Dugdhika	Durva

Devadaru	Draksha	Narikela	Nimbuka	Patola
Patala	Prasarini	Priyangu	Prishniparni	Babbula
Barbari	Bimbi	Beejapura	Brihati	Bhurjapatra
Mahanimba	Mashaparni	Mudgaparni	Munjataka	Mushali
Methika	Yarsagumba	Lajjalu	Vata	Raktachandana
Shatahwa	Shara	Shalaparni	Sarala	Sarshapa
Soorana	Sukshmaila	Somalata	Sthauneyaka	Trayamana

Unit 4: Medicinal Plants:

12 hrs

Sanskrit, Latin and local names, family, general introduction (identifying characteristics), Geographical distribution, parts used, Rasa, Guna, Veerya, Vipaka, Prabhava, actions, toxic effects & antidotes, method of purification, indications, doses, uses & common preparations of following medicinal plants:

Arka	Ahiphena	Karaveera	Kupilu
Gunja	Dhattura	Palasha(non-toxic)	Bhanga
Bhallataka	Madanaphala	Vatsanabha	Sarpagandha
Snuhi	Hingu		

Practical

[Dravyaguna-vigyana and Pharmacology (Basic concepts) I and Dravyaguna-vigyana and Pharmacology (Medicinal Plants) II]

117 hrs (3 hrs/week)

Full mark: 100

Herbarium: 50

Viva: 20

Spotting: 15

Field visit/Report: 15

Unit 1: Observation and Drawing:

60 hrs

Perform organoleptic test, physical and chemical tests, microscopical examination and drawing of following medicinal plants(Except Bhallataka, Sarpagandha, Vatsanabha):

Ashwagandha	Amalaki	Aragvadha	Indrayava	Eranda	Kankola
Katphala	Katuka	Kapikachchhu	Kampillaka	Karkatashringi	Kupilu
Kushtha	Khadira	Guggulu	Guduchi	Gokshura	Chakramarda
Jatamansi	Jyotishmati	Talisapatra	Tumburu	Daruharidra	Dhataki
Nagakeshara	Palasha	Pashanabheda	Pippali	Punarnava	
Babbulaniryasa		Bakuchi	Bibhitaka	Bilwshalatu	Bhallataka
Bhringaraja	Bhumyamalaki		Manjishtha	Madanaphala	Maricha
Mustaka	Mocharasa	Yashtimadhu	Rasanjana	Rohitaka	Laksha
Vacha	Vatsanabha	Varuna	Vasaka	Vidanga	Shatavari
Shirisha	Shunthi	Vamshalochana		Saptaparna	Sarjarasa
Sarpagandha	Haridra	Haritaki	Trivrit		

Unit 2: Field trip, Report Writing and Herbarium Preparation:

57 hrs

- 2.1: Perform field trip of minimum of 4 days visiting herbarium and herbal gardens or farms, write report and present it.
- 2.2: Collect specimens of locally available medicinal plants and prepare herbarium sheets of minimum of 50 medicinal plants included in theory course.

Text Books:

- द्रव्यगुण विज्ञान : डा. श्याममणि अधिकारी, साभा प्रकाशन, काठमाण्डौ, नेपाल ।

Reference Books:

- द्रव्यगुण विज्ञान भाग १-५: आचार्य प्रियव्रत शर्मा, चौखम्भा भारती अकादमी, वाराणसी, भारत ।
- द्रव्यगुण विज्ञानम् (पूर्वार्द्ध र उत्तरार्द्ध) : श्री यादवजी त्रिकमजी आचार्य, वैद्यनाथ आयुर्वेद भवन, भारत ।
- द्रव्यगुण विज्ञान : डा. प्रदीप के.सी. र डा. जया सत्याल, मकालु बुक्स एण्ड स्टेसनर्स, काठमाण्डौ, नेपाल ।
- भावप्रकाश निघण्टु (आचार्य भावमिश्रकृत) : टीकाकार डा. कृष्णचन्द्र चुनेकर तथा डा. गंगासहाय पाण्डेय, चौखम्भा भारती अकादमी, वाराणसी, भारत ।
- चरकसंहिता, सुश्रुतसंहिता, अष्टाङ्गसंग्रह र अष्टाङ्गहृदयको उपयोगी अंश ।
- निघण्टु आदर्श (पूर्वार्द्ध र उत्तरार्द्ध) : श्री बापालाल ग. वैद्य, चौखम्भा भारती अकादमी, वाराणसी, भारत ।
- स्थानीय जडीबुटीद्वारा स्वास्थ्य-रक्षा : डा. श्याममणि अधिकारी, नेपाल संस्कृत विश्वविद्यालय, नेपाल ।
- आयुर्वेद विज्ञान डा.काशीराज शर्मा सुवेदी, आयुर्वेद क्याम्पस कीर्तिपुर, नेपाल ।
- क्रियात्मक औषधि परिचय विज्ञान : श्री विश्वनाथ द्विवेदी, चौखम्भा विद्याभवन, वाराणसी, भारत ।
- जडीबुटी सङ्कलन, संरक्षण, सम्बर्द्धन विधि (जडीबुटी परिचयमाला) सम्पूर्ण भाग : वनस्पति विभाग, नेपाल ।
- Ayurveda Pharmacology (Bheshajaguna Vijnana): Dr. C. R. Sapkota and Dr. S. M. Adhikari, Singhadurbar Vaidyakhana Vikas Samiti, Kathmandu, Nepal.
- Pharmacology and Pharmacotherapeutics: Satoskar and Bhandarkar,
- Essential Drug List: Department of Drug Administration, Kathmandu, Nepal.
- Essential Ayurveda Drug List: Department of Ayurveda, Kathmandu, Nepal.
- Standard Treatment Schedules for Health posts & Sub-health posts: Deptt of Drug Administration, Kathmandu, Nepal.

RASA SHASTRA

Total Hours: 156 hrs (4hrs/week)
Theory: 117 hrs (3hrs/week)
Practical: 39 hrs (1 hr/week)

Course Description:

This course is designed to provide students the Knowledge and skills about Rasa Shastra. It deals with basic concept of Herbo–Mineral, Metal & Marine Materials as well as their identification, properties, actions, uses and dose. This course especially focuses on Purification and Pharmaceutical process of Mineral (Parada), Metal, (Iron) & Marine Materials.

Course Objectives:

After completion of the course the students will be enabled to:

1. Explain Rasa Shastra and its scope.
2. Classify the Dravyas of Rasa Shastra.
3. Define the following groups of medicines: Rasa, Uparasa, Maharasa, Dhatu, Upadhatu, Ratna, Kshara and Lavana.
4. Identify & explain Puta, furnace, grinder, pulverizer, tablet machine, pills making machine, coating machine etc.
5. Apply Yantra and equipment used to prepare various formulations.

Theory

Unit -1: Rasa Shastra

15hrs

- 1.1: Rasa shastra: Introduction, historical background, scope and importance.
- 1.2: Definition of terminologies used in Rasa Shastra:
Sodhana, Marana, Kajjali, Rasapanka, Bhasma, Pishti, Dhatusatwa, Vanaushadhisatwa, Aavapa, Nirvapa, Dhalana, Parpati, Swangashita, Bahishita, Bhavana, Bhavanaparimana, Varitara, Mritalauha, Rekhapurnatwa, Mitrapanchaka, Panchamrita, Panchagavya, Amaritikarana, Lohitikarana, Panchamrittika, Panchatikta.
- 1.3: Definition of groups of Dravyas:
 - Lavana - Lavanapanchaka, Lavanatrika
 - Kshara - Ksharatraya, Ksharapanchaka, Ksharashtaka
 - Amla - Amlavarga, Amlapanchaka
 - Taila - Tailavarga, Sikthataila
 - Kshira- Kshira dwaya, Kshiratraya

Unit -2: Yantras (Equipments):

10hrs

- 2.1: Yantras: their types and uses.
 - Dolayantra, Patanayantra, Urdhwapatana-yantra, Adhahpatana-yantra & Triyakpatana-yantra
 - Balukayantra
 - Damaruyantra
 - Khalvayantra

- 2.2: Musha(crucibles) and their types.
 2.3: Types of Puta & their uses:
 a. Mahaputa b. Gajaputa c. Varahaputa
 d. Kukkutaputa e. Kapotaputa f. Lavakaputa
 2.4: Koshthi and following machines & their uses:
 Furnace, Grinder, Pulverizer, Tablet machine, Pills making machine, Coating machine.

Unit-3:Parada (Rasa) 8hrs

- 3.1 Parada: synonyms, characteristics of pure and impure parada.
 3.2: Doshha (impurities) of Parada, Naisargika & Saptakanchuki Doshas of Parada, effects of impure Parada.
 3.3: General Shodhana (purification) and Ashta samskara of Parada.
 3.4: Method of preparation of Kajjali, Mugdharasa, Rasaparpati and Rasasindura with their uses, dose and contra-indications.

Unit-4: Rasa, Maharasa and Uparasa: 8 hrs

- 4.1: Rasa, Maharasa and Uparasa groups of Dravyas.
 4.2: Synonyms and the method of sodhana, uses, dose indication, conra-indications, specific preparations and side-effects of Gandhaka, Hingula and Girisindoora.
 4.3: Extraction method of Parada from Hingula.

Unit-5: Dhatu/Upadhatu 30hrs

- 5.1: Dhatu and Upadhatu groups of Dravyas.
 5.2: Synonyms, methods of Sodhana, Marana, Amritikarana and Lohitikarna; uses, dose, specific preparations, indications, side-effects and contra-indications of the following Dhatu and Upadhatu:
 Swarna, Rajata, Tamra, Naga, Vanga, Yashada, Lauha, Mandoora, Abharaka, Swarnamakshika, Kharpara (Rasaka), Gairika, Kasisa, Sphatika, Tuttha and Anjana.
 5.3: Method of preparing Dhanyabhraka.

Unit -6: Shilajita 4 hrs

- 6.1: Shilajita : synonyms, types and methods of Shodhana.
 6.2: Properties, actions, dose, side-effects of shilajita product.

Unit-7: Sudha, Marine and Animal – Origin Dravyas: 16 hrs

- 7.1: Dravyas of Sudha, Marine and animal-product group.
 7.2: Method of sodhana, Marana, uses, dose and specific preparations of Godanti, Khatika, Churna, Shankha, Shukti, Pravala, Mukta, Varatika, Samudraphena and Mrigashringa.

Unit-8: Ratna and Uparatna 8 hrs

- 8.1 Ratna and Uparatna: Ratna and Uparatna groups of davyas, their relations with Graha, common methods of Sodhana& their general uses.

Unit-9: Malla 4 hrs

- 9.1 Definition of Malla, Gauripashana, Haratal and Manahshila and Sodhana.

Unit-10: Visha and Upavisha 4 hrs

- 10.1 Definition of visha and Upvisha group of Dravyas.
 Shodhana of Vatsanabha, kupilu, Jaypal.

Unit-11: Lavana and Kshara 10 hrs

- 11.1 Definition of Natural & artificial Lavana, Saindhavalavana, Bidlavana, Samudralavana, Narikelavana, Arklalavana, Navasagara and Soraka with their properties and uses.
- 11.2 Kshara: Yavakshara and Tankana with their Sodhana, properties, uses and doses.

Practical

Perform the following tasks:

Unit-1: Observe and Identify the Following Dravyas and Yantras **5 hrs**

Parada, Hingula, Gandhaka, Shilajita, Navasagara, Gairika, Tankana, Sphatika, Haratala, Dhatu, Updhatu, Abhraka, Makshika, Pravala, Shankha, Moti(Mukta), Khatika, Godanti, Vatsanabha, Kupilu, Bhanga and Jayapala.

Dolayantra, Patanayantra, Balukayantra, Damaruyantra, Khalwayantra, Furnace, Grinder, Pulverizer, Tablet machine & Pills making machine.

Unit-2: Perform Sodhana and Marana of the Following Dravyas: **18 hrs**

Parada, Hingula, Gandhaka, Shilajita, Navasagara, Gairika, Sphatika, Tankana, Dhatu, Updhatu, Abhraka, Makshika, Pravala, Shankha, Moti(Mukta), Godanti, Vatsanabha, Kupilu and Jayapala, Vishadruga, Bhallatak.

Unit-3: Prepare Narikelavana/Arkalavana, Kajjali, Rasaparpati, Hinguleshwara Rasa and Dadrubidravana Malaham: **5 hrs**

Unit-4: Field trip and Report writing **11hrs**

Perform field visit to minimum of 2 pharmaceutical companies and write report on it.

Text Books

१. आयुर्वेदीय रस विज्ञान, डा.चन्द्रराज सापकोटा, जि.ए.पि. प्रा.लि., काठमाण्डौ ।

Reference Books:

१. रसरत्नमुच्चय, व्याख्याकार पण्डित धर्मानन्द शर्मा, सम्पादक अत्रिदेव विद्यालङ्कार, मोतीलाल बनारसीदास, नई दिल्ली, भारत ।

२. Ayurvedic Pharmacology: Dr C.R. Sapkota & Dr S.M. Adhikari, SDVKVS, Kathmandu, Nepal.

३. आयुर्वेद रसशास्त्र, प्रा. डा.चन्द्रभूषण भूषा, चौखम्भा सुरभारती, वाराणसी, भारत ।

४. रसतरङ्गिणी, सदानन्द शर्मा, मोतीलाल बनारसीदास, वाराणसी, भारत ।

BHAISHAJYA KALPANA (Ayurvedic Pharmacy)

Total Hours:	156 hrs (4 hrs/week)
Theory:	117 hrs (3 hrs/week)
Practical:	39 hrs (1 hr/week)

Course Description:

This course is designed to provide students the skills & knowledge about Bhaishajya Kalpana and its correlation with modern pharmacy. It deals with basic concept & fundamental principles of Bhaishajya-kalpana. Especially, this course focuses on method of preparation, dosage, uses & self life period of Panchavidha Kashya-kalpana & their derived Kalpanas (other derived formulations).

Course Objectives:

After completion of the course the student will be able to :

1. Explain the history, periodical development & scope of Bhaishajya Kalpana .
2. Explain Saveeryatavadhi of different Kalpanas.
3. Describe the fundamental principles of Bhaishajya Kalpana .
4. Explain the Nature of Kashaya-kalpana & selection of drugs for Kashaya-kalpana.
5. Explain the method of preparation, dosage & uses of Panchavidha Kashaya-kalpana.
6. Explain the method of preparation, dosage & uses of Avaleha-kalpana, Vati-kalpana, Sneha-kalpana, Sandhana-kalpana, Malahara-kalpana .
7. Describe Siddhilakshana & the precautions to be taken during the preparation of different formulations.
8. Correlate the Bhaishajya-kalpana with Pharmaceutical procedures/techniques.
9. Explain the G.M.P. of Ayurvedic Medicines.

Theory

Unit 1:- Introduction and Fundamental Principles of Bhaishajya Kalpana: 12hrs

- 1.1 Bhaishajya Kalpana, its importance in Ayurveda.
- 1.2 Brief history & periodical development of Bhaishajya-kalpana .
- 1.3 Paribhasha & its importance in Bhaishajya-kalpana.
- 1.4 Mana, importance and types of Mana, comparison with modern metric system & rules of taking Shuska and Ardra dravyas.
- 1.5 Saveeryatavadhi of different Kalpanas.
- 1.6 Correlation between Bhaishajya Kalpana with Pharmaceutical procedures/techniques.

Unit 2:- Panchavidha Kashaya-kalpana 20 hrs

- 2.1 Panchavidha Kashaya-kalpana, Rasa, Guna, Veerya, Vipaka, Prabhava, Anukta/ Visheshokta grahana & their importance in Bhaishajya-kalpana.
- 2.2 Panchavidha Kashaya-kalpana: Importance and nature & precaution to be taken during their preparation & selection of drugs for Kashaya- kalpana.
- 2.3 Swarasa kalpana, method of preparation, dosage, Prakshepa-dravya, self life period & uses of Swarasa kalpana. Examples:- Tulasi swarasa, Ardrak swarasa, Vasa Putapakwa Swarasa-kalpana.

- 2.4 Kalka & Churna/powder kalpana, method of preparation of Kalka-kalpana, types, manufacturing procedures, special care & problems, self life, dose, uses, advantage & limitations of Churna/powder Kalapana. Examples: Rasona kalka, Nimba kalka Triphala churna, Avipattikara churna, Sitopaladi churna, Hingwashtaka churna.
- 2.5 Kwatha-kalpana: dose, self life, uses, method of preparation, advantage & disadvantages, examples: Punarnawashtaka kwatha, Rasnasaptaka kwatha.
- 2.6 Kwatha-churna, Shadangapaneeya, Ushnodaka, Mamsarasa, Pramathya, Vesavara, Ksheerapaka, Yavagu, Manda, Peya, Yusha, Vilepi & their importance.
- 2.7 Sheeta (Hima) kalpana, Mantha, Panaka, Tandulodaka, method of preparation, advantage and disadvantages, self life, dose and uses of Sheeta-kalpana. Examples : Dhanyaka Hima, Sarivadi Hima.
- 2.8 Phanta kalpana, Arka kalpana & its uses, method of preparation, self life, advantage & disadvantages, dose, uses of Phanta Kalapana. Examples: Shudharsana Phanta, Panchakola Phanta, Ajmodarka, Tulasi Arka, Jeerakarka.
- Unit 3: Avaleha/ Rasakriya and Satwa-kalpana: 8 hrs**
- 3.1 Avaleha-kalpana, its Anupana: dose, self life, method of preparation, advantages & Siddhalakshanas. Examples: Chyavanaprashavaleha, Vasavaleha.
- 3.2 Satwa, its methods of preparation, dose and self life. examples- Guduchi satwa.
- Unit 4: Vati-kalpana 8 hrs**
- 4.1 Vati (Pills/Tablets) Kalpana: synonyms, method of preparation, self life, advantages & disadvantages, ideal requirements and dose. Examples: Khadiradi vati, Chitrakadi vati, Lavangadi vati, Tribhuvanakirti Rasa, Yogaraja Guggulu.
- Unit 5: Sneha-kalpana: 5 hrs**
- 5.1 Sneha kalpana, its types, method of preparation, dose, self life, advantages, precautions, sneha sddhilakshanas & murchchhana. Examples : Triphala Ghrita, Jatyadi Ghrita, Shadavindu Taila, Panchaguna Taila, Bala Taila.
- Unit 6: Sandhana-kalpana: 8 hrs**
- 6.1 Sandhana kalpana: its types & significance.
- 6.2 Asava & Arishta, general method of preparation, factors influencing Asavarishta, tests to confirm the onset & completion of fermentation, dose & self life. Examples: Dashamularishta, Arjunarishta, Kumaryasava, Chandanasava & Ashokarista.
- Unit 7: Lepa and Malahara kalpana: 3hrs**
- 7.1 Lepa, Malhara-kalpana and Sikthataila; methods of preparation, uses & self life. Example: Sarjarasa malahara.
- Unit 8: Aushadha-kalpana Parikshana: 15 hrs**
- 8.1 Ayurvedic drugs standardisation techniques and G.M.P. of Ayurvedic medicines (as per described in Ayurvedic texts & WHO Herbal G.M.P.)/ National Ayurveda G.M.P.
- 8.2 Sampling & its importance, types & methods.
- 8.3 Rules and regulations related to Ayurvedic drug manufacturing.
- Unit 9: Pathya-kalpana: 5 hrs**
- 9.1 Pathya Kalpana, Manda, Peya, Vilepi, Rasa, Yusha (Krita and Akrita), method of preparation of various types of Pathya-kalpana.

Unit 10: Emulsions, Suspensions & Liquids Preparations: 10 hrs

10.1 Emulsions & Suspensions, types & manufacturing procedure.

10.2 Solution, Syrup, Elixir & Liquids for external uses, manufacturing and procedures.

Unit 11: Physical & Chemical Properties/Characteristics of Drugs & Formulations: 15 hrs

11.1 Form, bulk, particle size, solubility, interfacial tension, rheology, cohesion, compressibility & partition coefficient; their significance on drugs & formulations.

11.2 Chemical characteristics of drug molecules & formulation in relation to :

- Interaction with environments.
- Interaction with additives.
- Interaction with other drugs molecules , if any.

Unit 12: Stabilisers, Diluents, Binders & Disintegrating Agents: 10 hrs

12.1 Antioxidants, preservatives, diluents, binders & disintegrating agents, commonly used Ayurvedic antioxidants, preservatives, diluents, binders & disintegrating agents.

Unit 13: Essential drugs of ayurveda

13.1 Definition, concept and importance of essential drugs

13.2 Essential ayurveda drugs for Aushadhalaya, district ayurveda health center and Chikitsalaya Level.

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| १. अविपत्तिकर चूर्ण | २. हिंगवष्टक चूर्ण | ३. महायोगराज गुग्गुलु | ४. महानारायणी तेल |
| ५. सितोपलादि चूर्ण | ६. टंकण भष्म | ७. पुष्यानुग चूर्ण | ८. बालामृत |
| ९. मृगमदासब | १०. सर्पगन्धा घनवटी | ११. निम्बादि चूर्ण | १२. गन्धक रसायन |
| १३. खदिरादि वटी | १४. षड्विन्दु तेल | १५. योगराज गुग्गुलु | १६. महासुदर्शन चूर्ण |
| १७. महाशंख वटी | १८. बिल्वादि चूर्ण | १९. जात्यादि तेल | २०. कैशोर गुग्गुलु |
| २१. चन्द्रप्रभा वटी | २२. त्रिफला चूर्ण | २३. अश्वगन्धा चूर्ण | |

Practical

- Unit 1: Panchavidha Kashaya-kalpana:** **4 hrs**
1.1 Prepare Ardraka swarasa, Tulasi swarasa, Vasa putapakwa swarasa & perform organoleptic tests.
1.2 Prepare Nimba kalka and perform organoleptic tests.
1.3 Prepare Triphala kwatha and perform organoleptic tests.
1.4 Prepare Dhanyaka Hima and perform organoleptic tests.
- Unit 2: Churna-kalpana:** **3 hrs**
2.1 Prepare Triphala churna & Hingwastak churna and perform organoleptic tests.
- Unit 3: Avaleha-kalpana:** **4 hrs**
3.1 Prepare Vasavaleha, Chyavanprashavaleha & Guduchisatwa and perform organoleptic tests.
- Unit 4: Vati-kalpana:** **4 hrs**
4.1 Prepare Ashvagandha pills, Tribhuvanakirti rasa, Bhuvaneshvara vati, Lavangadivati and perform organoleptic tests.
- Unit 5: Sneha-kalpana:** **4 hrs**
5.1 Prepare Jatyadi Ghrita, Bala Taila and perform organoleptic tests.
- Unit 6: Sandhana-kalpana:** **4 hrs**
6.1 Prepare Kanji, Arjunarishta/Ashokarishta and perform organoleptic tests.
- Unit 7: Malahara-kalpana:** **4 hrs**
7.1 Prepare Sarjarasa Malahara kalpana, Rubefacient ointment and perform organoleptic tests.
- Unit 8: Emulsions, Suspensions & Liquids Preparations:** **6 hrs**
8.1 Prepare Acacia emulsion, Vasa syrup, Ginger syrup and a suspension & perform organoleptic tests.
- Unit 9: Factory Visit:** **6 hrs**
9.1 Conduct field study of manufacturing process & quality assurance of pharmaceutical companies & write a report on it.

Text Books:

१. आयुर्वेदीय औषधी निर्माण विज्ञान, डा. चन्द्रराज सापकोटा, एन.पि.टी.सी. प्रा.लि., काठमाण्डौ ।

Reference Books:

१. शाङ्गधर संहिता, अनुवादक श्री राधाकृष्ण पराशर, श्री वैद्यनाथ आयुर्वेद भवन, पटना, भारत ।
२. नेपाल आयुर्वेद भैषज्य संहिता (प्रकाशित भागहरु), आयुर्वेद विभाग, नेपाल ।
३. Industrial Pharmacy, Lakshman et. al., Varghese Publishing House, Bombay, India.
४. Tutorial Pharmacy, Cooper and Gunns', CBS Publishers & Distributors, New Delhi, India.
५. The Ayurvedic Pharmacopoeia of India, Govt. of India publication.
६. Pharmacopoeial standards for Ayurvedic Formulations: C.C.R.A.S., India
९. भैषज्यकल्पना विज्ञान, डा. सिद्धिनन्दन मिश्र, चौखम्भा संस्कृत संस्थान, वाराणसी, भारत ।

EPIDEMIOLOGY, COMMUNITY HEALTH DIAGNOSIS, PRIMARY HEALTH CARE AND FIRST AID

Total Hours: 195 hrs (5 hrs/week)
Theory: 117 hrs. (3 hrs./week)
Practical: 78 hrs. (2 hrs/week)

Course Description:

The course has been organized into four units. The first unit provides basic concept of disease causation, knowledge and skills on epidemiology, diagnostic procedure of community related health problem, primary health care for common health problem and first aid management.

Course Objectives:

After the successful completion of the course, students will be enabled to:

1. Define epidemiology and explain its features.
2. Describe disease causation, mode of transmission, environmental factors as the basis for environmental health of the community.
3. Generate epidemiological information for community health diagnosis.
4. Investigate and manage an epidemic/outbreak in the community.
5. Conduct community diagnosis.
6. Provideservices in PHC applying theprinciples and strategies of primary health care.
7. Manage first aid situations at health institutions or elsewhere in the community.
8. Identify first aid situations which require referral to the higher level facility.
9. Explain different life threatening casualty condition and apply first aid skills to promote health and recovery of the victims.
10. Administer medications by each route safely and effectively.

Theory

Unit 1: Basic Epidemiology: 12 hrs

- 1.1: Epidemiology: Definition, aims, importance and the measurements of disease frequency, population at risk, prevalence and incidence rate.
- 1.2: Surveillance: aims, objective and types of surveillance.
- 1.3: Epidemiological studies; types, causes of disease, supernatural cause, germ theory, multifactorial, web causation of disease and epidemiological triad.
- 1.4: Screening: definition, feature, type and use in public health, reliability and validity.

Unit 2: Infectious Disease Epidemiology: 10 hrs

- 2.1: Terminologies used in Epidemiology: Infections, communicable disease, infectious disease, case, host, agent, environment, carriers, vectors, reservoir, incubation period, epidemic, endemic, pandemic, exotic, sporadic, contamination, virulence, infestation, zoonosis, elimination, eradication, quarantine.
- 2.2: Natural history of disease: dynamics of disease transmission, source and reservoir, modes of transmission and susceptible host.

- 2.3: Prevention: Meaning, level of prevention, infectious/communicable disease in Ayurveda.
- 2.4: Ayurveda approach of communicable disease prevention.

Unit 3: Field Epidemiology:

8 hrs

- 3.1: Outbreak: Definition, the steps of outbreak investigation and management.
- 3.2: Proposal: Structure, tools for gathering information, interview schedule, techniques and observation checklist.
- 3.3: Report writing :
- Introduction
 - Components of report

Unit 4: Community Health Diagnosis:

18 hrs

- 4.1: Introduction, aims, benefits and steps of the following community health diagnosis processes:
- Preparation of tools and techniques and work plan;
 - Pre-testing of instruments;
 - Rapport building;
 - Data collection;
 - Data processing, analysis and interpretation; Community presentation;
 - Planning and implementation of micro health project (MHP);
 - Evaluation.
- 4.2: Component of community health diagnosis:
- Demographic characteristics;
 - Social, economic and geographic characteristics;
 - Environmental health and sanitation;
 - Knowledge, attitude and practice (KAP) on health issues;
 - Maternal and child health;
 - Morbidity and disability;
 - Availability of health services and its utilization;
 - Community resources (Human, natural and knowledge resources);
 - Community leaders;
 - Culture and tradition.
- 4.3: Differentiation between community diagnosis and clinical diagnosis.

Unit 5: Data collection, Processing and Preservation:

12 hrs

- 5.1: Data collection; type and source of data, qualitative and quantitative data, census, sample survey and sampling method.
- 5.2: Methods of data collection, use of questionnaire, Observation, Interview, Focus group discussion, PRA and RRA.
- 5.3: Data processing: steps, data editing, data coding, Tabulation and Presentation.
- 5.4: Process of community presentation.

Unit 6: Introduction to Primary Health Care:

17hrs

- 6.1: Primary Health Care
- 6.2: **Principles and elements/components of Primary Health Care.**

6.3: Implementation of PHC (in terms of WHO and government of Nepal) and priority national programs (EPI, FP, TB, Leprosy, STI, Malaria, Kala-azar).

6.4: SDG : Health related elements of SDG.

6.5 Ayurvedic in PHC and role of Ayurved Health Assistant in PHC.

Unit 7: Epidemiology of non-communicable disease

Definition, Type, Method of disease surveillance of the following **non-communicable** disease:**10 hrs**

- Cancer,
- Cardiovascular disease,
- Obesity,
- Diabetes,
- Accidents,
- Chronic respiratory
- Road Traffic Accident (RTA)

Unit 8: First Aid:

6 hrs

- 8.1: First aid: Definition, objectives, scope, responsibility, principle and importance.
- 8.2 Qualification and responsibility of first aid provider.
- 8.2: Artificial respiration, importance, types, steps & process of cardio-pulmonary resuscitation.

Unit 9: First Aid Management:

24 hrs

- 9.1: Shock: definition, types, sign and symptoms and first aid management.
- 9.2: First aid measures in case of organophosphorus and organochlorine poisoning.
- 9.3: Foreign body in ear, nose, throat and eyes and first aid management.
- 9.4: Injury: Classification, types, hemorrhage, first aid management and measures to control external bleeding.
- 9.5: Burns: Classification, percentage and degree, first aid measures to thermal /chemical burns,
- 9.6 Frost bite and snake bite.
- 9.6: Fracture: fractured bones, dislocations and its first aid management.
- 9.7: Drowning and acute mountain sickness; first aid management.

Practical

Unit 1: Epidemiology:

24 hrs

- 1.1 **Visit to epidemiology division of Aurvada and modern health institutions for collection of epidemiological information.**
- 1.2 **Prepare questionnaire of epidemiological approach.**

Unit 2: Community Health Diagnosis:

22 hrs

- 2.1 **Prepare a community health diagnosis guideline.**
- 2.2 **Prepare work plan and develop a set of questionnaire for different type of information collection.**

Unit 3: PHC and First aid:**32 hrs**

- 3.1 **Simulate immunization.**
- 3.2 **Perform suturing and the process of immobilization by using splint in different part of the body.**
- 3.3 **Perform the application of different types of bandages and tourniquet in different sites of the body.**
- 3.4 **Prepare ORS solution.**
- 3.5 **Carry out CPR steps by step.**
- 3.6 **Take Vital signs and measurements.**

Reference Books:

1. Basic Epidemiology: Beaglehole R. Bonita R. and Kjellstrom T., WHO, Geneva.
2. Primary Health Care: Health for All (Series#1), published by WHO/UNICEF. 1978.
3. Park's Textbook of Preventive and Social Medicine: K. Park, 23rd ed., M/S Banarasidas Bhanot Publishers, 1167, Jabalpur, India, 2005.
4. National Health Policy 2017 BS, Ministry of Health and Population, Nepal..
5. Medical Epidemiology: 2nd ed., Raymond S. Greenberg, Stephen R. Daniels, W. Dana Flanders, J. William Eley, John R. Boring.
6. A short Book of Public Health: Muthu VK, Jaypee Brothers Medical Publishers (P) Ltd EMCA House, 23/23B Ansari Road Daryaganj, New delhi, India.
7. Manual of First Aid Management of General Injuries, Sports Injuries and Common Ailments: Gupta L.C. and Gupta Abhitabh, Jaypee Brothers Medical Publishers (P) Ltd EMCA House, 23/23B Ansari Road Daryaganj, New delhi, India.
8. Bailliere's Handbook of First Aid, Kirby Norman G and Mather Stephen J, AITBS Publishers and Distributors (Regd.) Medical Publisher, J 5/6, Krishan Nagar, Delhi, India.

VIKRITI VIGYANA

Total Hours:	156 hrs (4 hrs/week)
Theory :	117 hrs (3 hrs/week)
Practical:	39 hrs (1 hr / week)

Course Description

This course is designed to provide students the skills and knowledge about the basic concepts of Dosha, Dushya; Kshaya & Vriddhi of Dosha, Dhatu and Mala; and causative factors for disease described in Ayurveda and general medicine. It also deals with basic clinical pathology, microbiology, parasitology, haematology and Vyavahara-Ayurveda.

Course Objectives

After completion of the course the students will be able to :

1. Define Vikriti-vijnana and describe the history, scope and importance of Vikriti-vijnana.
2. Explain the Dosha, Dhatu, Mala and symptoms of their Kshaya, Vriddhi and Shat-kriyakala (Sanchaya, Prakopa, Prasara, Sthanasamshraya, Vyakti and Bheda).
3. Describe the compositions and function of different components of blood.
4. Define bacteria, virus, fungus, Sankramana, Nirmalikaarana, Rogapratirodha-shakti (immunity), immunization and vaccine.
5. Describe different kinds of parasites and their pathogenic effects in human body.
6. Perform basic microbiological, biochemical and haematological tests in the laboratory setting.
7. Explain Vyavahara-Ayurveda and explain its scope, importance & use in Ayurveda dispensaries/health centres.

Theory

Unit - 1: Ayurvedic Concept of Vikriti:

30 hrs

- 1.1 Vikriti-vijnana: Definition, origin, scope and importance of Vikriti-vigyana.
- 1.2 Roga (disease) and Panchanidan, Definition, origin and types of Roga, Trividha, Shadvidha and Ashtavidha Roga-pariksha.
- 1.3 Dosha and Dushya: types, symptoms of Vriddhi and Kshaya of Dosha, Dhatu and Mala, factors responsible for Sanchaya Prakopa of Doshas; Shat-kriyakala and symptoms of Sanchaya, Prakopa, Sthanasamshraya, Vyakti and Bheda of Doshas.
- 1.4 Dosha-dushyaSammurchhana, responsibility of Dosha, Dhatu and Mala in development of disease.
- 1.5 Srotas: Definition, importance, role in occurrence of diseases, causes of Srotodushti and its symptoms.

Unit - 2 : Haematology and Laboratory Diagnosis:

34 hrs

- 2.1 Hematology: Definition, general composition and functions of blood, formation of RBC, WBC, platelets, plasma and types of anticoagulants.
- 2.2 Structure, function, estimation (Shali's method) and normal values of hemoglobin.
- 2.3 Methods of blood collection for:
 - (a) Hematological investigations.
 - (b) Biochemical investigations.
 - (c) Microbiological investigations.

- 2.4 Test method for R.B.C. total count, W.B.C. total count, W.B.C. differential count and erythrocyte sedimentation rate (ESR) of blood with their normal value.
- 2.5 Test method and biological values of L.F.T., renal function test, cholesterol, creatine, creatinine, blood sugar, albumin, uric acid and urea in blood.
- 2.6 Routine and microscopic examination of urine with normal values.
- 2.7 Routine, microscopic and other examination method of stool and general findings.
- Unit - 3 : Microbiology: 20 hrs**
- 3.1 Morphology of different kinds of micro organisms, micro organisms on the basis of morphology and staining, difference between bacteria, fungus and virus, spore, toxin, flagella and capsule.
- 3.2 Different stages of inflammation, infarction, and ischemia.
- 3.3 Roga-pratirodhatmaka Shakti (immunity), Sankramana (infection).
- 3.4 Nirmalikiran (sterilization) and diferent methods of Nirmalikarana.
- 3.5 Antigen, antibody, sera and vaccine, immunization and its types, importance, schedule and method of each type.
- Unit - 4 : Parasitology: 18 hrs**
- 4.1 Parasitology and parasite, modes of infestation, pathogenicity & laboratory diagnosis of round worm, hook worm, pin worm, whip worm, tape worm, *Hymenolepis nana*, *Entamoeba histolytica* & *Giardia lamblia*.
- 4.2 Mode of infection, pathogenicity and laboratory diagnosis of *Plasmodium*, *Leishmania donovani*, and *wuchereria bancrofti*.
- Unit - 5 : Vyavhara-Ayurveda: 15 hrs**
- 5.1 Vyavahara-Ayurveda, its scope, importance and use in Ayurveda / health institutions.
- 5.2 Different types of Vrana (wound), report writing of wound examination.
- 5.3 Health / fitness certificate, birth certificate and death certificate.

Practical

- Unit- 1: Laboratory Equipment and Techniques: 7 hrs**
Identity & handle different laboratory tools, instruments/equipment with appropriate techniques.
- Unit- 2: Staining and Smears: 6 hrs**
Perform staining and examine thick & thin blood smears; perform Gram staining and AFB Staining.
- Unit- 3: Stool Examination: 4 hrs**
Perform stool examination for ova, cyst and parasites.
- Unit- 4: Urine Examination: 10 hrs**
4.1: Perform the following examination:
- Microscopic examination of urine for urinary deposits.
 - Chemical examination of urine for sugar and albumin.
 - Urine test for keton bodies, bile salt and urobilinogen.
- Unit- 5: Blood Examination: 12 hrs**
5.1: Perform the following examination:
- Identify TLC, DLC and ESR of blood;
 - Estimate haemoglobin level.

Text Books:

1. Abhinava Vikriti Vijnana, Vidhyadhar Shukla, Chaukhambha Sanskrit Prakashan, Delhi, India.
Ayurvediya Nidana Chikitsa Ke Siddhant:Dr. R.H. Singh, Chaukhambha Amarbharati, Varanasi, India.
3. Madhav Nidana (with Nepali translation), Dr. Kamdeva Jha, TU, Kathmandu Nepal.

Reference Books:

1. Doshakaranatva Mimansa, Acharya Priyavrata Sharma, Chaukhambha Sanskrit Pratisthan, Varanasi, India.
2. Ayurvediaya Vyadhi Vigyan, Yadavji Trikamji Acharya, Baidyanath Ayurveda Bhawan, Nagpur, India.
3. Useful portions/chapter of Charaka-samhita and Astanga-samgraha (with Nepali Translation)
4. Text book of pathology, Harsh Mohan, Jaypee Brothers Medical Publisher (P) Ltd., New Delhi, India.
5. Parasitology, Chatterjee, Chatterjee Medical Publishers, Calcutta, India.
6. Text book of medical parasitology, Paniker, Jaypee Brothers Medical Publishers, (P) Ltd., New Delhi,

SWASTHAVRITT

Total Hours: 195 hrs (5 hrs/week)

Theory: 156 (4 hrs/week)

Practical: 39 (1 hr/week)

Course Description

This course is designed to provide students the knowledge and skills on components of Swasthavritta (Health education, Family health, Environmental health, Hygiene and Sanitation).

Course Objectives

After completion of the course the students will be able to:

1. Explain Dinacharya, Ratricharya, Ritucharya, sadvritta.
2. Explain Yoga and natural treatment.
3. Enlist the components of swasthavritta.
4. Identify common maternal and child health problems and resolve them through implementation of government programs.
5. Describe proper management of waste water quality, housing standards, control of vector born diseases.
6. Explain the importance of balanced diet.
7. Identify occupational health hazards and apply their preventive strategies.
8. Plan, implement and evaluate health education program.
9. Explain the relationship between environment and health.
10. Identify common maternal and child health problems and resolve them through implementation of government programs.
11. Assess and counsel the clients for the need of family planning services.
12. Conduct population education on the effects of population overgrowth.
13. Identify measures for controlling population overgrowth.

Theory

Unit 1: Swasthavritta

22 hrs

- 1.1: Swasthya, Swastha, Swasthavritta Dinacharya: Danta-dhawana, Jihva-nirlekhana, Gandush-dharana, Kaval Mukha-netraprakshalana, Anjana, Nasya, Dhoomapana, Vyayama, Abhyanga, Snana, Bhojanakala.
- 1.2 Ratrichrya and its importance.
- 1.3: Aacharasayan and Dhaaraniya-adhaaraniya Vegas and its relation to health.
- 1.4: Upastambha, Aahara, Nidra and Brahmacharya; Hitahara and Ahitahara (wholesome and unwholesome diet), proper method of in taking food and drinks.
- 1.5: Rhitucharyaa and activities to be performed in each Rhitu (season).
- 1.6 Rhitu-sandhi and its importance.

Unit 2: Yoga and Naturopathy

15hrs

- 2.1: Yoga, Ashtanga-yoga and its relation to Ayurveda.
Importance and classification of eight components of Ashtanga- Yoga (i.e Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi)
- 2.2: Importance of yoga in prevention of disease advantages/benefits of Asana, Pranayama and its impact on health.

- 2.3: Dhyana: Importance and its effect on mental health.
- 2.4 Natural treatment: Importance in present era.

Unit 3 : Health Education (HE) and Counselling: 20 hrs

- 3.1: Health education: objectives, principles of health education, importance and process of behavior change.
- 3.2: Communication process: techniques, use of health education information system, communication as a tool of health education, principles and techniques of motivation, and process of learning in Health Education.
- 3.3: Health education methods, types of health education media, their advantages and disadvantages and measures to make each media effective.
- 3.4: Steps of counseling and its importance in Ayurveda dispensaries.
- 3.4: Role of health workers: plan, implement and evaluate health education program in Ayurvedic dispensaries.

Unit 4: Nutrition: 8 hrs

- 4.1: Definition and classification of protein, carbohydrate, fats, vitamins and minerals, their sources, uses and deficiency disorders.
- 4.2: Balanced diet, Shadrasa-bhojana and Aharvarga, identify malnutrition and nutritional problems, deficiency disorders such as PEM, cretinism, iron deficiency anemia, iodine deficiency disorder.
- 4.3: Nutritional status assessment (mid upper arm circumference. (MUAC), height, weight, head circumference etc.), contents and methods of nutrition education.

Unit 5: Maternal and Child Health (MCH): 15hrs

- 5.1: MCH: Objectives, definition, maternal mortality and morbidity, safe motherhood program,
- 5.2: Reproductive health (RH), interventions and activities related to RH, Ayurvedic approach to RH, socio-cultural values on RH and stress management.
- 5.3: Child health, monitor child growth and development, mortality, morbidity situation, risks, preventive and control measures to reduce child mortality and morbidity: ANC, growth monitoring, breast-feeding, family planning, management of ARI and DD, newborn care, sanitation, health education.
- 5.5: Weaning and artificial food: times, process, preparations, common problems and its management.
- 5.6: Immunization and Vyadi-kshamatwa, national immunization schedule, EPI programs, adverse effects & management, principles & purpose of cold chain maintenance & equipments required.
- 5.7: Family planning: scope, services, client rights, counseling, benefits at different levels, eligible couples, contraceptive prevalence rate, enlist methods for contraception, their advantages and disadvantages, emergency contraception.

Unit 6: Population Issues: 10 hrs

- 6.1: Population, census and demography: its composition, distribution, size, different components, trend of population growth in Nepal and compare the data with developed countries.

- 6.2: Positive and negative growth, population projection, demographic transition, causes and effects of population overgrowth, population growth control, population education.

Unit 7: Environmental Health:

30 hrs

- 7.1: Environment, environmental health, environmental sanitation, describe the relation between environment and health with examples of local, national and global pollution.
- 7.2: Janapadoddhwamsa and environmental hazards, the way to reduce the harmful effects of environmental hazards.
- 7.3: Environmental health issues in global and national context, basic environmental threats, and different types of environmental threats and measures to reduce the threats.
- 7.4: Safe and wholesome water, value, requirement, uses, sources, nature and cycle of water, merit and demerits of different source of water, criteria and standard for water quality according to WHO.

Unit 8: Wastes Management:

12 hrs

- 8.1: Wastes: types and sources with examples of solid, liquid and hazardous wastes, degradable and non-degradable wastes, national and local efforts to recycle solid wastes.
- 8.2: 3R (recycle, reuse, reduce): concept of minimizing waste, disposal of waste in urban and rural area, bio-gas methods, advantages and disadvantages of each method (sanitary landfill, dumping, composting, incineration), hazards of solid waste: health and environmental hazards, examples of solid waste management.
- 8.3: Sources of liquid waste and its management, types, hazards and management of hospital wastes.

Unit 9: Food Hygiene:

12 hrs

- 9.1: Food hygiene: its relation to health, sources of food contamination (human and environmental), food poisoning, food borne infection.
- 9.2: Food preservation: importance, methods (such as drying, smoking, cooking, pickling, fermentation, pasteurization, boiling, refrigeration, canning and bottling), preparation of hygienic food, food additives, adulteration, fortification, Ahara-kalpana, Ahara-bidhi.
- 9.3: Milk hygiene: meat hygiene, milk borne and meat borne diseases, methods of pasteurization and handling of milk, characteristics of healthy and unhealthy meat, storage, slaughter house and its standard.
- 9.4: Organic farming, describe relationship between biodiversity, culture and health.

Unit 10: Housing and Occupational Health:

12 hrs

- 10.1: Avasa (housing): overcrowding, noise pollution, radiation and ventilation, residential environment, principles of housing, criteria for healthful housing, housing standards, effect of poor housing on health, housing situation and national housing policy.

- 10.2: Healthy air and air pollution: diseases related to air pollution, sources of air pollution, indicators, and measures of pollution control, green house effect, ozone depletion and acid rain.
- 10.3: Vector borne diseases: its effects and control measures.
- 10.4: Occupational hazards and diseases, physical, chemical, and biological agents, diseases of psychological origin, prevention (medical, engineering & legislative measures) of occupational hazards.

Practical

Unit 1: Health Education Needs Assessment, Methods, Media Development: 8hrs

- 1.1: Conduct educational diagnosis survey to identify the health education needs,
- 1.2: Prepare modular health education plan and simulate different education methods: Communication exercise, group discussion, role play, counseling, lecture, demonstration, exhibition, social mapping etc.
- 1.3: Collect health education materials from organizations, prepare poster, models etc.

Unit 2: Health Education and Evaluation 3 hrs

- 2.1 Conduct health education session, evaluate and assess its effectiveness.

Unit 3: Field trip, Report Writing and submission:

- 3.1 Water Supply Scheme: 3 hrs**
Observe and share different sources of water, water collection, procedure of water purification (different stages), water quality testing, water supply, chemical treatment.
- 3.2: Study Visit of Solid Waste Management Project Area: 3 hrs**
Observe and share types of wastes, method of separation, process of recycling, reusing and reducing, sanitary landfill, collection and compaction.
- 3.3: Visit industrial Area: 3 hrs**
Observe and share location of industrial area, condition of industries, record keeping system, health monitoring activities, health facilities.
- 3.4: Inspection of Vadhashala (Slaughter House): 3 hrs**
Observe and share hygienic condition of vadhasala (slaughter house), cleanliness, animal inspection, meat inspection and meat handling.
- 3.5: Visit Dairy Development Center: 3 hrs**
Observe and share milk collection area, milk testing, pasteurization, temperature maintenance, milk handling, need of automation, different dairy products, benefits of milk and milk product consumption.
- 3.6: Visit yoga and natural treatment centre: 3 hrs**
- 3.7: Practical and Demonstration of Asana and Pranayam. 10hrs**

Reference Books:

1. Swsthavritta Samuchhaya, Pandit Rajeswor Dutt Shastri.
2. Swasthavritta Vigyan, Dr. Ram Harsa Singh.
3. A Text Book of Health Education, L. Ramchandran and T. Dharmalingam,
4. Behavioural sciences in Medical Practice, Manju Mehta, Jaypee Brothers Medical Publishers
5. Text Book of Social and Preventive Medicine, 23rd ed., Park J E and Park K.

6. Text Book of Social and Preventive Medicine, M C Gupta, B K Mahajan,
7. National Maternity Care Guidelines Nepal, The Dept. of Health Services, FHD, Nepal
8. Principles of population studies, A Bhende & Y Kanitkas, Himalya Publishing House, Mumbai
9. Demography and Population studies, O S Srivastava, Vikas Publishing House, India.
१०. प्राकृतिक चिकित्सा विज्ञान भाग १, डा. सूर्यबहादुर कार्की २०७५, नेपाल योग तथा प्राकृतिक चिकित्सा संघ ।
११. प्राकृतिक योग चिकित्सा विज्ञान भाग १, डा. सूर्यबहादुर कार्की २०५४, नेपाल सरकार चिकित्सा संघ ।

HEALTH CARE SYSTEMS AND HEALTH MANAGEMENT

Total Hours: 117 hrs (3 hrs/week)

Theory: 78 hrs (2 hrs/week)

Practical: 39 hrs (1 hr/week)

Course Description

This course is designed to provide the students knowledge and skills about the health care systems and health management in Nepal. It deals about the prevalent health care systems, health policies and programs in Nepal, fundamental principles of management, management of health related organizations, logistic management, personnel management, health issues and professional practice.

Course Objectives:

On completion of the course the student will be enabled to:

1. Describe prevalent health care systems in Nepal.
2. Explain the theories, principles & components of health care systems.
3. Identify current national and international health issues.
4. Describe the national health policy, its philosophy, strengths and weaknesses.
5. Explain various health programs of the Departments of Ayurveda and Health Services.
6. Provide the quality health service applying the principles of logistics management, human resource management and supervision at Ayurvedic dispensaries and health center.
7. Generate informations (service information, logistic information, human resource information and financial information) in health management, planning and decision making process.
8. Identify different levels of human health resource/workforce in Nepal.
9. Describe goals and functions of the health related governmental organizations, non-governmental organizations (NGO's), international non-governmental organizations (INGO's) and international agencies in Nepal.
10. Describe the federal structure of health sector and governance.
11. Explain the code of ethics of the diploma graduates of Ayurveda.

Theory

Unit-1: Health Care Systems in Nepal :

6 hrs

- 1.1: Health care system: history, cultural values and development legend of health care systems
- 1.2: Philosophy, origin, strengths and weaknesses of the following health care systems:
Ayurveda, Allopathy, Homeopathy, Unani,
Acupuncture, Naturopathy, Yoga\ Meditation, sowa rigpa
Other traditionally used healing systems.

Unit- 2: Fundamentals of Health Management:

20 hrs

- 2.1: Health management: Management versus administration, POSDCORB, functions of management in the Ayurvedic dispensary context.

- 2.2: Planning: Definition, types of planning, planning cycle (PIE cycle), planning steps and current health planning system.
- 2.3: Organogram: Federal structure of Ministry of Health and Population, Provincial and local structure of health sector.
- 2.4: Leadership: Definition, types of leadership, responsibility of the leader as role model, theories of motivation and change.
- 2.5: Job description: Purpose, essential elements of job description, delegation of authority and its process, staffing patterns of department of Ayurveda, Ayurveda hospitals and other Ayurveda/health institutions of government of Nepal.
- 2.6: Supervision, monitoring, evaluation and coordination: Definitions, purposes, types, component, tools and methods, process/techniques of supervision, monitoring, evaluation and coordination in different level of Ayurveda institutions.
- 2.7: Disaster: Definition, effects of manmade and natural disaster, risks to public health created by the disasters, awareness about earthquake, flood, landslide etc, basic elements of disaster planning, role of governmental, non-governmental, local, regional, national, international organizations and civil society in disaster management, post-disaster issues.
- 2.8: Reporting process of Nepal's health delivery system, the purpose of dispensary reporting in Ayurveda institutions.
- 2.9: Budgeting and types of budgets.

Unit- 3: Ayurveda Dispensary Management:

30 hrs

- 3.1: Ayurveda dispensary management: Components, objectives, terms, responsibilities and importance.
- 3.2: Training: purpose and the process for assessing the need for training (TNA), types of training with advantage and disadvantages of each type of training, planning, conducting & evaluation of training program.
- 3.3: Staff meeting: importance and planning date, time, venue, participants, resources and invitation, procedures for conducting/organizing a meeting.
- 3.4: Purpose and procedures for financial management, records of income and expenditure, annual budget, bank account, prepare monthly/quarterly and annual financial statements.
- 3.5: Employee leaves: types, procedure for making a request for leave, approval of staff leave and maintaining the records of staff leave.
- 3.6: Logistic management: purpose, functions, logistic cycle and Six” rights of the logistic management, components & procedures of Nepal’s LMIS.
- 3.7: Storage and store standard: purpose of inventory, goals and procedures of physical inventory, classifications and selection of raw materials, processing materials and equipment, management of essential drugs, vaccines and contraceptives, procedures for procurement and distribution of commodities, cold chain storage of medical supplies.
- 3.8: Quality assurance:
 - Introduction, Components, rationale, importance and standards of quality health care.

- Importance of technical competence, efficient service, accessible site, good interpersonal relationships, good continuity of services, safe and pleasant environment,
 - Process of quality assurance, patient/staff needs performance, reality and team approach.
- 3.9: Benefits of regular staff performance evaluations, importance of writing a clear and complete staff job description, job assignment, indicators of a good job performance.
- 3.10: Workspace required for various Ayurveda dispensary activities, strategies for management of activities and ways to arrange space as per activities.
- 3.11: Time management: time management and calendar of operation, weekly, monthly, quarterly and yearly program chart preparation for various activities.
- 3.12: Problem and problem solving: steps of problem solving.
- 3.13: Health Management Information System (HMIS): purpose, process, types, importance.
- 3.14: Ayurveda Management Information System (AyMIS): purpose, types and importance.

Unit- 4: Health Related Organizations: 5 hrs

- 4.1: National NGOS: FPAN, Nepal Netrajyoti Sangh, Leprosy relief association and others, roles & activities of national non-governmental organizations for promoting health care.
- 4.2: International non-governmental organizations (INGO's): roles & activities of INGO's for promoting health care in Nepal.
- 4.3: Roles and activities of different bilateral and multilateral agencies: WHO, UNICEF, UNDP, World Bank, DFID, UNFPA and FAO in health sectors of Nepal.

Unit- 5: National Health Policy: 4 hrs

- 5.1: National Health Policy: aims, components, National Ayurveda Health Policy 2052, current five-year plan and long term health plan, potential barriers.

Unit- 6: National Health Programs: 4 hrs

- 6.1: Objectives and activities of the following national health programs:
 Malaria control, FP and MCH, EPI, Tuberculosis control,
 Leprosy control, CDD, ARI, Kala-azar,
 STD/HIV/AIDS, PHC outreach clinic, Nutrition,
 IEC, Trainings.
- 6.2: Role of the Ayurveda dispensary /Health Post manager in national health programs.

Unit- 7: Health Manpower in Nepal: 4 hrs

- 7.1: The purposes and activities of the various institutions involved in human resource development in health sector:
 Institute of Medicine TU, NSU, CTEVT, Universities
 BPKIHS, National Health Training Center (NHTC) and others.

- 7.2: Existing human resource for health sector:
Ayurveda medical doctor, Medical doctor, Public health worker, Ayurveda health assistant, Health assistant, Staff nurse, Lab.technologist, Radiographer, Auxiliary Ayurveda workers, Auxiliary nurse midwife, Auxiliary health worker and others.
- 7.3: Job description: role & responsibilities of each staff at government Ayurveda institutions.

Unit- 8: Health Issues & Professional Practice **5 hrs**

- 8.1: Global health situation: current global health issues, mortality from infectious diseases & nutritional problems in developing nations, major health problems.
- 8.2: Barriers to the development of global health throughout the world, global efforts to improve the health and nutrition of developing nations.
- 8.3: Major health issues of Nepal.
- 8.4: Formation, activities & functions of Nepal Ayurveda Medical Council and NHPC, purpose, code of conduct for Ayurveda health assistant.
- 8.5: Goals and process of small business establishment for community welfare, business opportunities to meet community needs, ethical considerations of entrepreneurship.

Practical

Unit- 1: Fundamentals of Health management: **5 hrs**

Prepare organograms:

- 1.1 Federal structure of Ministry of Health and Population, Provincial and local structure of health sector.
- 1.2 Department of Ayurveda.

Unit- 2: Ayurveda Dispensary Management: **4 hrs**

- 2.1 Conduct/organize staff meeting.
- 2.2 Prepare monthly/quarterly and annual financial statements.

Unit- 3: Health Related Organizations:

- 3.1 Prepare list of health related organizations. **2 hrs**

Unit 4: Develop & Use a Format for Data Collection and Documentation of the Following Local Resources/ Area conducting Field Study, Prepare and Submit report: **18 hrs**

- Traditional healers and other local health workers.
- Locally available herbs.
- Food & nutritional supplements.
- Life style and health practices.

Unit 5: Perform the following: **10 hrs**

- Fill the HMIS Report.
- Fill different Formats of Currently used AyHIMS Reports.

Reference Books:

1. व्यवस्थापन परिचय, विश्वेश्वरमान ।
2. Quest for Health, Dr. HemangDixit, Educational Enterprises, Kathmandu, Nepal.
3. Health Management, Y. P. Pradhananga, CTEVT, Bhaktapur
4. Health and Health Services in Nepal, Y. P. Pradhananga.
5. Leadership & Management for Nurses, Kamala T. & Bishnu R., Health Learning Materials Centre, TU.
6. Documents of National Health Policy, Nepal Ayurveda Health Policy, Drug Policy and Acts, Treatment protocols & Guidelines.
7. Health Service Acts and Regulations, different Health Council Acts and Regulations
8. On Being Incharge, A guide to Management in Primary Health Care: Macmohan R. et al. WHO.

THIRD YEAR

Subjects:

- Rognidan and Kayachikitsa
- Shalya- vigyana (Surgery)
- Shalakya- Vigyana(ENT, Ophthalmology, Dental and oral hygiene)
- Prasuti and Striroga- vigyana
- Balaroga
- General Medicine
- Community Medicine
- Clinical Practice
- Comprehensive Field Practice/study

ROGANIDANA & KAYACHIKITSA

Total Hours:	352 hrs (11 hrs/Week)
Theory:	256 hrs (8 hrs/Week)
Practical:	96 hrs (3 hrs/Week)

Course Description:

This course is designed to provide students the knowledge and skills about Rognidan & Kayachikitsa. It deals with the basic concept of Kayachikitsa including Rogi-parikshya (the examination of patient including history taking & physical examination), Roga-parikshya (identification and diagnosis of Diseases) and treatment of common diseases at Ayurveda dispensary/health centre level. It also includes etiology, clinical features, differential diagnosis, management, preventive measures and indications for referral to appropriate centre.

Course Objectives:

On completion of the course the learner will be enabled to:

1. Perform thorough Roga-parikshya, Rogi-parikshya, analyze and interpret the findings to make a rational provisional diagnosis.
2. Identify the etiology, pathology & clinical features of common systemic disorders.
3. Describe the management & counseling for common systemic disorders.
4. Identify indications that a case requires referral to a higher level.
5. Identify & implement opportunities for health education, prevention measures and rehabilitation.

Roga-nidana and Kayachikitsa - I (128 hrs: 4 hrs/week)

Theory

Unit- 1: Kayachikitsa: 17 hrs

- 1.1: Introduction, Tridanda, Ayu, Agni, Chikitsaya-purusha, Trividha Duhkha and Saptavidha Duhkha, Vyadhi-bheda, Karana, Samprapti.
- 1.2: General principles and types of Chikitsa.
- 1.3: Aushad sewan kal (Medication Administration).

Unit- 2: Rogi Pariksha-vidhi (Examination of the Patient): 20 hrs

- 2.1: Trividha Rogi Pariksha-vidhi, Panchavidha Rogi Pariksha-vidhi, Shadvidha Rogi Pariksha-vidhi, Ashthavidha Roga Pariksha-vidhi, Dashavidha Rogi Pariksha-vidhi.
- 2.2: Systemic Rogi Pariksha-vidhi (Pranavaha Srota, Annavaha Srota, Hridaya and Raktavaha Srota) and Udara Pariksha.

Unit- 3: Rog Parikshaya-vidhi (Examination of the Disease): 25 hrs

- 3.1: Nidana, Panchanidana – Nidana (Hetu), Purvarupa, Rupa, Upashaya and Samprapti.
- 3.2: Aamotpatti, Sama and Nirama.
- 3.3: Shatkriyakala.

- 3.4: Panchakarma : (Vamana, Virechana, Anuvasana-basti, Asthapana-basti and Nasya/ Shirovirechana) including Snehana, Swedana, Shirodhara, Katibasti and Abyanga.
- Types of snehan and its uses.
 - Types of swedan and its uses in various ailments.
- 3.5: Vajikarana and Rasayana.
- 3.6: Oja: the types, characteristics, signs and symptoms of Kshaya and Vriddhi of Oja.

Unit- 4: Common Diseases:

66 hrs

Introduction, Nidana, Purvarupa, Rupa, Upashaya, Samprapti, Sadhyasadhyatwa, Upadrava (complications), Chikitsa-sutra, Chikitsa, Pathyapathya and refer of the following diseases:

Jwara	Vishama-jwara	Grahani	Pravahika
Amlapitta	Arsha	Chhardi	Agnimandya
Krimi	Rajayakshma	Pandu	Ajirna
Swarabheda	Kamala	Aruchi	Hikka
Raktapitta	Atisara	Kasa	Shwasa
Raktagat vat,	Hridsool,		

Roga-nidana and Kayachikitsa - II

(128 hrs: 4 hrs/week):

Theory

Unit- 1: Diseases:

78 hrs

Types, Nidan, Purvarupa, Rupa, Upashaya, Samprapti, Sadhyasadhyatwa, Upadrava (complications), Chikitsasutra, Chikitsa, Pathyapathya and referral conditions of the following diseases:

Madatyaya	Vatavyadhi	Shotha	Murchchha
Pakshaghat	Vatarakta	Kushtha	Sanyasa
Ardita	Aamavata	Madhumeha	Unmada
Gridhrasi	Mutrakrichhra	Shitapitta	Apasmara
Kampavata	Udarda	Avabahuka	Mutrashmari
Kotha	Visarpa	Paurushagranthi-vridhi,	
pittaasmari	Sandhivat	vatrakta	

Unit- 2: Emergency management of Common Diseases:

50 hrs

Etiology, pathology, clinical features, complications, management of the following diseases:

Status asthmatics,	Status epileptics,	Coma,	Shock,
Hemorrhage,	Hyperpyrexia,	Hypothermia,	Retention of urine,
Acute abdomen,	Burn & scald,	Dehydration,	Angina pectoris(Heart
attack), Poisoning,	Snake bite	Insectbite	Delirium.
Herpes zoster	Herpes simplex	Cellulitis	Erysepalus

Practical

Roga-nidana and Kayachikitsa – I & II 96 hrs (3 hrs/week):

Unit- 1. General Rogi Pariksha:

30 hrs

Perform the following tasks:

- 1.1: Take general history of the patient.
- 1.2: Perform Tribidha Rogi-pariksha, Panchavidha Rogi-pariksha, Shadavidha Rogi-pariksha, Astavidha Rogi-pariksha and Dashavidha Rogi-pariksha.
- 1.3: Introduction to clinical examination equipments such as Sphygmomanometer, Stethoscope, Clinical thermometer, Pulse oximeter, Otoscope etc.
- 1.4: Take temperature, pulse, respiration, and measure blood pressure.
- 1.5: Examine for dehydration, edema, clubbing, lymph nodes, jaundice, anemia and cyanosis.
- 1.6: Advise patients for laboratory investigations and read/interpret lab. Test reports.
- 1.7: Instruct, follow up and refer the patients as required.

Unit- 2. Systemic Rogi Pariksha:

16 hrs

- 2.1 Perform the following Rogi-pariksha (systemic examinations):
Nadi Sansthan, Pranavaha Srota, Annavaha Srota,
Hridaya and Raktavaha Srota Udara Pariksha .

Unit- 3. Examine, Diagnose and Manage the Cases of Following Diseases:

50 hrs

Jwara	Vishama-jwar	Grahani	Pravahika
Amlapitta	Arsha	Chhardi	Agnimandya
Krimi	Rajayakshma	Pandu	Ajirna
Swarabheda	Kamala	Aruchi	Raktapitta
Atisara	Kasa	Hridroga	Shwasa
Madatyaya	Vatavyadhi	Vishwachi	Gulma
Sotha	Murchchha	Pakshaghata	Vatarakta
Ashtodara	Kushtha	Sanyasa	Ardita
Aamavata	Prameha	Unmad	Gridhrasi
Mutrakrichhra	Shitapitta	Apasmara	Kampavata
Urustambha	Shula	Mutraghata	Udarda
Yoshapasmara	Abavahuka	Mutrashmari	Paurushagranthi-vridhi Status
asthmatics,	Status epileptics,	Coma,	Shock,
Hemorrhage,	Hyperpyrexia,	Hypothermia,	Retention of urine,
Acute abdomen,	Burn & scald,	Dehydration,	Anginaepectoris (Heartattack),
Poisoning,	Snake bite	Insect bite	Delirium
Visarpa	Herpes zoster/simplex	Cellulitis	Erysepalus
hridsool raktagat vat	Sandhivata	vatarakta	

Text Books:

1. Kayachikitsa, Dr. Shivacharan Dhyani, Chaukhambha Bharati Academy, Varanasi, India.
2. Ayurveda Nidan Chikitsa, (Part I, II & III), Prof. Dr. Ramharsha Singh, Chaukhambha Bharati Academy, Varanasi, India.
3. Diagnostic & Treatment Manual for Primary Health Care in the District: K.K. Kafle & Pinniger R.G., Health Learning Material Centre, IOM, TU, Kathmandu.

Reference Texts:

1. Textbook of Medicine, Dr. S.Dhungel & Dr. U.Pathak, HLMC, IOM, TU, Kathmandu.
2. Differential Diagnosis, Dr. U.Pathak, HLMC, IOM, TU, Kathmandu.
3. Hutchinson's Clinical Method, ELBS Publications
4. Communicable diseases, S.Dhungel & U.Pathak, HLMC, IOM, TU, Kathmandu.
5. Medical Problems for Health Post Workers, P.Sayami, HLMC, IOM, TU, Kathmandu.
6. Vishak Karmasiddhi, Dr. Ramanath Dwibedi, Chaukhambha Bharati Academy, Varanasi, India.
7. Davidson's Principles and Practice of Medicine, Churchill Livingstone
8. Relevant portions of Charak-samhita, Sushruta-samhita, Ashtanga-hridaya and Ashtanga-sangraha.

SHALYA-TANTRA (Surgery)

Total Hours:	192 hrs (6 hrs/week)
Theory:	128 hrs (4 hrs/week)
Practical:	64 hrs (2 hr/week)

Course Description :

This course is designed to provide students the knowledge and skills about Shalya-Tantra. It deals with the basics of Ayurvedic surgery with especial focus on Yogya (surgical practice), Shalya extraction procedure and Trividha Shalya-karma. The skills include basic history taking and physical examination, procedures for administering medications, wound care, simple suturing, bandaging and performing invasive procedures.

Course Objectives :

After completion of the course the students will be enabled to :

1. Explain the history and scope of Shalya-Tantra.
2. Perform the basic history taking and examination of a Shalya patient.
3. Perform selected basic invasive procedures and wound care.
4. Administer medications by each route safely and efficiently.
5. Assess, diagnose and treat the common surgical disorders.
6. Identify indications for referral and refer the complex conditions.

Theory

Unit 1: Shalya Tantra:

10 hrs

1. Introduction
2. History and importance
3. History taking and physical examination of Shalya patient clinically.
4. General symptoms, Shareerika and Agantuka Shalya, general and specific courses of Shalya and general symptoms of Shalyayukta Sthana.
5. Trividha Shalya-karma, Yogya, Shalya-nirharana and Pashchat-karma.
6. Common surgical instruments.

Unit 2: Yantra and Shastra:

10 hrs

- 2.1: Introduction to Yantra and Shastra.
- 2.2: Guna and Dosha (merits and demerits) and proper utilization of Yantra and Shastra in different surgical procedures.
- 2.3: Sterilization of different Yantra and Shastra.
- 2.4: General and Local Anesthesia.
- 2.5: General introduction, types and handling methods of catheter, enema and Ryle's tube.

Unit 3: Ashtavidha Shastrakarma, Vrana-shopha and Vidradhi:

20 hrs

- 3.1: Ashtavidha Shastra-karma, suturing methods.
- 3.2: Sadyovrana: Definition, causes, types, symptoms and management of Sadyovrana.
- 3.3: Vrana-shopha (inflammation): Definition, causes, types, symptoms of Ama-Pachyamana-Pakwa stages and management of Shopha.

- 3.4: Vidradhi: Definition, causes, types, symptoms and management of Vidradhi/Abscess.
 3.5: Diagnosis and management of Rakta-srava (haemorrhage) and Stabdha (shock).

Unit 4: Raktavasechana, Ksharakarma and Agnikarma: 20 hrs

- 4.1: Raktavasechana and Jalauka: Introduction, types & origin of Jalauka and Jalaukopachara-sadhya Vyadhi.
 4.2: Kshara and Kshara-karma, Ksharakarma-sadhya Vyadhi, Ksharanirmana-vidhi, Kshara-dosha, Kshara-prayoga-vidhi and the process of preparation and use.
 4.3: Agnikarma: process using Angikarma, Itaratha-dagdha and its management.
 4.4: Causes and management of Pramada-dagdha (burns and scalds) as per 'Rule of Nine' and indications for electrolyte balance.

Unit 5: Asthibhagna: 13 hrs

- 5.1: Fracture, dislocations, strain and Sprain.
 5.2: Causes, types, symptoms, complications and management of Asthibhagna.
 5.3: Symptoms and management of Sandhi-moksha (dislocation).

Unit 6: Common Surgical Diseases: 15 hrs

- 6.1 Definition, types, diagnosis and management of following diseases:
 Hydrocele, Hernia, Ulcer / wound,
 Acute mastitis, Phimosis and Paraphimosis.

Unit 7: Acute Abdomen: 14 hrs

- 7.1: Clinical/diagnostic features of acute abdomen, acute appendicitis, acute cholecystitis, acute intestinal obstruction, peritonitis, peptic ulcer and intestinal perforation.
 7.2: Symptomatic and general management of the above conditions to refer to appropriate hospital.

Unit 8: Ano-rectal Problems: 14 hrs

- 8.1: Definition, Causes, signs & symptoms and management of following diseases:
 Piles, Fissure, Fistula Rectal prolapse.

Unit 9: Arbuda (Tumor): 12 hrs

- 9.1: Causes, types, clinical features and general management of Arbuda (tumor).
 9.2: Referral condition of Arbuda to the proper hospital for specific treatment.

Practical

Unit 1: Observational Duty in Hospital Shalya Ward and OPD: 30 hrs

- 1.1: Observe and record diagnosis and management of following diseases:
 Abscess, Wound, Hernia, Hydrocele,
 Retention of urine, Piles, Fistula, Appendicitis,
 Acute abdomen, Fracture, Dislocation and Burns.
 1.2: Write 5 long and 5 short histories of Shalya patients.
 1.3: Perform a complete local examination of Shalya patients.

Unit 2: Observational Duty in District Hospital/Ayurveda Aushadhalaya/Health Centre: 34 hrs

- 2.1: Observe and perform suturing, suture removing, dressing, bandaging, plaster cutting and draining of abscess.
- 2.2: Observe/assist the diagnosis and management of fracture, hydrocele, hernia and phymosis.
- 2.3: Administer intramuscular, intravenous, subcutaneous and intradermal injections.

Text Books:

1. Shalya-tantra, Dr. Surendra Kumar Sharma, Nath Pustak Bhandar, Railway Road, Rohatak, India.
2. Principles of Surgery, Dr. A. K. Sharma, Educational Enterprises (P) Ltd., Mahankalasthan, Kathmandu.
3. Ayurvediya Shalya Vigyan, Dr. Kashiraj Subedi, Shajha prakashan, Nepal.

Reference Books:

1. Shalya-vijnana, Dr. Ananta Ram Sharma, Anantaram Sharma Shravananath Math, Haridwar, India.
2. Text Book of Surgery, Dr. S.C. Basu, Current Distributors, Calcutta, India.
3. Useful portions/chapters of Charaka-samhita, Sushruta-samhita and Vagbhata.

SHALAKYA-TANTRA (ENT, Ophthalmology, Dental & Oral Hygiene)

Total Hours: 160 hrs (5 hrs/Week)
Theory: 128 hrs (4 hrs/Week)
Practical: 32 hrs (1 hr/Week)

Full Marks: 100 (Th. 80 + Pr. 20)
Pass Marks: 44 (Th. 32 + Pr. 12)

Course Description :

This course is designed to provide students the knowledge and skills about Shalaky-Tantra. It deals with the basic as well as modern concept of Ayurvedic ENT, ophthalmology, dentistry and oral hygiene.

Course Objectives :

After completion of the course the students will be enabled to :

1. Explain the history and scope of Shalaky-Tantra.
2. Explain the basic principles of Shalaky-Tantra.
3. Define the terminologies used in Shalaky-Tantra.
4. Classify the various aspects of Shalaky and explain their groups.
5. Treat/manage common diseases or problems of ENT, ophthalmology, dentistry and oral hygiene.
6. Identify the complicated indication and refer for further treatment if necessary.

Theory

Unit 1: Netragata Roga (Eye Diseases):

45 hrs

- 1.1: Netra-sharira (general anatomy of eye), Netra-mandala, Netra-patala and Netra-sandhi.
- 1.2: Netra-rogas, general causes, symptoms and management of Netra-rogas.
- 1.3: Symptoms and treatment of the following diseases:
Sandhigata roga, Puyalasaka, Upanaha, Utasangini, Vartmashotha, Pakshmakopa and Pothalki.
- 1.4: Causes, symptoms and treatment of the following diseases:
Abhisyanda (conjunctivitis), Adhimantha (glaucoma)
Linganasa (cataract) and Savranashukla (ulcerative eye)

Unit 2: Karnagata Roga (Ear Diseases):

18 hrs

- 2.1: Karna-sharira (general anatomy of ear), Causes, symptoms and treatment of Karna-rogas (ear diseases).
- 2.2: Cause, symptoms and treatment of the following Karna-rogas:
Karnasrava, Karnanada, Badhirya.
Karnashoola and Karnashalya.

Unit 3: Nasagata Roga (Nasal Diseases):

18 hrs

- 3.1: Nasa-sharira (the general anatomy of nose), Nasa-rogas, causes, symptoms and treatment of Nasa-rogas (nose diseases).
- 3.2: Symptoms and treatment of following Nasagata rogas:
Pratisyaya (influenza), Pinasa (Sinusitis)
Nasagat raktapilta (nasal bleeding) and Nasa-shalya (foreign body in nose).

Unit 4: Mukhagata Roga (Oral Diseases): 12 hrs

- 4.1: Mukha-sharira (the general anatomy of oral cavity or mouth), causes, symptoms and treatment of Mukha-rogas (oral diseases).
4.2: Causes, symptoms and treatment of the following Mukhagata-rogas:
Rohini (diphtheria), Tundikeri (tonsillitis) and Mukhapaka (stomatosis).

Unit 5: Dantagata Roga(Dental Diseases): 15 hrs

- 5.1: Danta-sharira (the general anatomy of teeth), Danta-rogas, causes, symptoms and treatment of Danta-rogas (dental diseases).
5.2: Causes, symptoms and treatment of the following Danta-rogas:
Dalana, Shitada, Dantavesta,
Dantaharsha, Dantashoola Krimidanta.

Unit 6: Shiro Roga (Head Diseases): 20 hrs

- 6.1: Shiro-roga, causes, symptoms and treatment of Shiro-roga.
6.2: Causes, symptoms and treatment of the following Shiro-rogas:
Suryavarta, Ardhavabhedaka, Anantavata and Krimijanya Shiro-roga.

Practical

Unit 1: Netragata Roga (Eye Diseases): 8 hrs

- 1.1 Observe, perform history taking and record of minimum 3 cases

Unit 2: Karnagata Roga (Ear Diseases): 5 hrs

- 2.1 Observe, perform history taking and record of minimum 2 cases

Unit 3: Nasagata Roga (Nasal Diseases): 6 hrs

- 3.1 Observe, perform history taking and record of minimum 3 cases

Unit 4: Mukhagata Roga (Oral Diseases): 8 hrs

- 4.1 Observe, perform history taking and record of minimum 4 cases

Unit 5: Shiro Roga (Head Diseases): 5 hrs

- 5.1 Observe, perform history taking and record of minimum 3 cases

Text Books:

1. Shalaky Tantra, Anant Sharma, Chaukhambha Sanskrit Series, Varanasi, India.
2. Shalaky Tantra, Dr. Ramanath Duwedi, Chaukhambha Sanskrit Series, Varanasi, India.

Reference Books:

1. Netra Rog Chikitsa, Dr. Munde, Baidyanath Prakashan, Patna, India.
2. Netra Rog chikitsa, Shri Hansraj, Krishna Gopal, Ajamer.
3. Ayurvedic Yantra Shastra Parichaya, Surendra Mohan, Motilal Banarasidas, Varanasi, India.
4. Clinical Surgery, Dr. P.Das, Bold Mayors Court, Calcutta-5, India.
5. Text Book of ENT, Shah, Agra Book Center, Delhi, India.
6. Text Book of Ophthalmology, Dr. Challayee, Choukhambha Orientalia, India.
7. Useful topics of Charaka-samhita, Sushruta-samhita and Vagbhata.

PRASUTI AND STRIROGA-VIGYANA (Obstetrics and Gynecology)

Total Hours: 234 hrs (6 hrs/week)
Theory: 128 hrs (4 hrs/week)
Practical: 64 hrs (2 hrs/week)

Course Description:

This course is designed to provide students the knowledge and skills about Prasutitantra and Striroga. This course deals with Ayurvedic aspects of Striroga and Prasutitantraas well as modern Obstetrics & Gynecology.

Course Objective:

On completion of the course, the students will be enabled to:

1. Describe history & scope of Striroga & Prasuti-tantra.
2. Examine Stri Prajanananga and identify the abnormal conditions.
3. Perform Garvini Pariksha and identify normal/abnormal progress of Garbhaabastha (pregnancy)
4. Explain the common uncomplicated Garbhavastha and Striroga (gynecological) conditions.
5. Counsel the Garbhini regarding safe motherhood practices.
6. Describe the Prakritik Prasava (normal delivery) and Navajat Shishu Paricharya.
7. Identify abnormal conditions of Prasavavyatha (labor), Prasava (delivery), Navajat Shishu and manage the cases using Ayurvedic Dispensaries/health post resources.
8. Identify indications of high risk Garbha requiring expert management and refer such cases to higher level facility.
9. Apply the policies of National Guidelines for maternity care.
10. Counsel mothers on safe motherhood practices, family planning & STD (Aupasargika-Younaroga).

Theory

Unit 1: Stri-sharir and Stri-pariksha: **12 hrs**

- 1.1: Stri, anatomy and physiology of Garbhashaya, Yoni, Beejavahini, Beejashaya, Stri Antahsrava (female hormones) and the changes in different age of Stri.
- 1.2: Gynecological history taking and principles of patient education.

Unit 2: Rajovigyana: **8 hrs**

- 2.1: Strishukra, Rajah, Rituchakra, Artavachakra, Ritukala, Rajaswala, Ritumati, Artavotpatti-krama Rajah-pravritti and its quantity, Rajashwala-charya and Rajovikriti.
- 2.2: Ashtavidha-rajodushti, the causes, sign & symptoms and management of all Rajodosha.

- Unit 3: Stana Vigyana** **6 hrs**
- 3.1: Anatomy & physiology of Stana (breast), during Garbhavastha (pregnancy) & Stanya-panavastha (lactation).
- 3.2: Procedure of Stana-pariksha, causes, sign & symptoms and management of Stanakilaka, Stanarbuda, Stanabidradhi, Stanashotha, Stanashula and strategy of treating common problems during lactation.
- Unit 4: Yonivyapad:** **14 hrs**
- 4.1: Yonivyapad, causes, types, sign & symptoms and management of Bandhyatwa (infertility), Somaroga, Mutrakrichchhra, Mutraghata, urine leakage & urinary retention.
- 4.2: National management guidelines and treatment of STD.
- Unit 5: Sexual Assault & Abuse:** **4 hrs**
- 5.1: Sexual assault and sexual abuse, the relationship between the incidence of abuse & the protection of rights of vulnerable populations (women, children, mentally weak).
- 5.2: Emotional needs of victims of abuse and the management of post-coital contraception.
- Unit 6: Garbha-vijnana:** **28 hrs**
- 6.1: Garbha, Garbha-sambhava Samagri, Garbhavakranti, Garbhadharana, Garbhagata six Dhatus & Hetupurusha, Garbhopakrama, cardinal sign & symptoms of Garbha & sex detection.
- 6.2: Monthly development of Garbha, Garbhaposhana-karma, the formation & functions of Aparas (placenta), Aparavikriti, Nabhi-nadi & Garbhodaka.
- 6.3: Prakriti & Vikriti of Garbha, normal & abnormal Asana of Garbha, Garbhasthiti (lie), Yamalagarbha & Bahvapatyata.
- 6.4: Sign & symptoms, diagnosis and treatment of Garbha-vyapad like Garbhasrava, Garbhapata, Upavishtaka, Nagodara, Leenagarbha, Bhootahritagarbha, Garbhavidhi, Garbhashosha.
- 6.5: High risk of pregnancy and its management.
- Unit 7: Garbhini-vijnana:** **20 hrs**
- 7.1: Sign & symptoms of Sadyogrihita Garbha & Vyaktagarbha.
- 7.2: Expected date of delivery (EDD) & Garbhopaghatakara-bhava, Monthly Garbhini-paricharya, Garbhini-swasthya-raksha (antenatal care) and Garbhavastha Ahara-vihara (nutritional needs in pregnancy), Dauhridd woman & its complications.
- 7.3: Sign & symptoms, complications, diagnosis & treatment of Antarmrita Garbha (IUD) and Garbhini-vyadhi.
- Unit 8: Prasava-vijnana (Labor & Delivery):** **20 hrs**
- 8.1: Asanna-prasava & Upasthita-prasava, Avi (normal labor), different stages of labor and assessment of abnormal progress of the Garbha (fetus) through birth canal.
- 8.2: Sutika-ghriha(hospital), Prasavakalina-prabandha & Navajata Shishu-paricharya.
- 8.3: Prasava-vyapad: Garbha-sanga, Akala-prasava (premature delivery), Kalatita-prasava, Vilambita-prasava (delayed delivery), Yonisamvarana, Yugmagarbha-prasava, Bahu-apatya-prasava and Makkala-shula.

- 8.4: Causes symptoms, diagnosis, types, Sadhyasadhayta and treatment of Moodha-garbha.
- 8.5: Utkarshana, Apakarshana, Sthanaparivartana, Rijukarana & Nirharana.

Unit 9: Sutika-vijnana:

12 hrs

- 9.1: Sutika-kala, Sutika-paricharya /Ahara-vihara (post-natal care), causes, sign & symptoms and treatment of Sutika-vikara (puerperal diseases).
- 9.2: Techniques for assisting the baby to learn to lact on nipple and management of lactation problems such as sore/cracked nipple, mastitis.
- 9.3: Need for increased fruit, calcium and protein vitamins during lactation period and also contra-indicated foods & medicines to lactating mother.
- 9.4: Reasons & methods for beginning family planning.

Unit 10: Stanya-vigyana:

4 hrs

- 10.1: Stanya and Dhatri Stanya; causes, sign & symptoms and treatment of Stanya-dushti.
- 10.2: Method of testing Suddha-stanya (pure milk) and causes of less production, heavy production and no production of milk.

Practical

Unit 1. Avi and Prasava (Labor & Delivery):

24 hrs

- 1.1: Observe to identify the stages of normal Avi, confirm Avi and assess Prasava-poorva and a complete delivery of primipara and multipara.
- 1.2: Assess the progress of Avi (cervical changes, effacement, dilatation, mucus show, Garbhodaka release, crowning duration and frequency of contraction desire to push), observe and assess presentation, rotation & descent of fetal occiput, both vaginally & externally, apply the measures to comfort & progress of labor.
- 1.3: Assist with the procedures for the management of second and third stages labor.
- 1.4: Observe to assess the sign & symptoms of prolonged labor, fetal distress, maternal distress.
- 1.5: Assist to conduct Prasava (normal and abnormal delivery)(Minimum 20 cases).
- 1.6: Differentiate the causes of Prasavottara-raktasrava (PPH) and assist with the treatment.
- 1.7: Assist with the process for assessment & treatment of Apra-sanga (retained placenta), cervical or vaginal tears, uterine atone(Minimum 10 cases).
- 1.8: Demonstrate the procedure for removal of retained placenta and suturing of a simple episiotomy(Minimum 10 cases).

Unit 2. Navajata Shishu and Prasuti-paricharya (New Born and Postpartum care):

14 hrs

- 2.1: Assist on Navajata Shishu-paricharya, examine Navajata Shishu according to the assessment guidelines.
- 2.2: Assess the Prasuti for complications and assist on management of Prasavottara complications (Minimum 5 cases).
- 2.3: Counsel the new mother/family regarding Stanapana, Swasthavritta, Poshana (nutrition), danger signs of Navajat Shishu (neonate) and Prasuti, immunizations & family planning (Minimum 5 cases).

Unit 3. Complications of Garbhavastha (Pregnancy): **12 hrs**

- 3.1: Manage of Garbha-srava (abortion) and Rakta-srava (vaginal bleeding)(Minimum 5 cases).
- 3.2: Assess sign & symptoms and treat Garbhakshepaka (eclampsia) & pre-eclampsia (Minimum 5 cases).

Unit 4. Striroga-vijnana (Gynecology): **14 hrs**

- 4.1: Identify clinical features, admit & prescribe for common Striroga conditions requiring hospital treatment.
- 4.2: Evaluate effectiveness of prescribed Chikitsa, counsel patients for prevention of Gynecological disorders (Minimum 5 cases).

Text Books:

- 1 Ayurvediya Prasutitantra Evam Striroga (Parts I & II), Dr. Premvati Tiwari, Chaukhambha Orientalia, India.
- 2 Abhinava Prasuti-vijnana, Dr. Ayodhya Prasad Achal, Chaukhambha Surabharati, India.
- 3 Abhinava Striroga-vijnana, Dr. Ayodhya Prasad Achal, Chaukhambha Surabharati, India.

Reference Books:

- 1 Abhinava Prasuti-tantram, Dr. Damodar Sharma Gauda.
- 2 Abhinava Striroga-vijnana, Dr. Rajendra Bhatnagar, Surya Prakashan Sansthan, Udayapur, India.
- 3 Text book of obstetrics, D.C. Datta, New Central Book Agency, Calcutta, India.
- 4 Text book of Gynaecology and contraception by C.S. Dawn, Dawn Books, Calcutta, India.
- 5 Midwifery Manual, Institute of Medicine, TU, Kathmandu, Nepal
- 6 Nepal reproductive health strategy, Family Health Division, Department of Health Services, Nepal
- 7 National Maternity Care Guidelines, Family Health Division, Deptt. of health services, Nepal.
- 8 Life saving skills for Midewives, WHO/UNICEF, Geneva.
- 9 Relevant portions of Charaka-samhita, Sushruta-samhita, Kashyapa-samhita and Vagbhata.

BALAROGA

Total Hours: 128 hrs (4 hrs/week)

Theory: 96 hrs (3 hrs/week)

Practical: 32 hrs (1 hr/week)

Course Description

This course is designed to provide students the knowledge and skills on Balaroga. It deals with basic concepts of Balaroga used in Ayurveda and general medicine. It provides the knowledge & skills necessary to assess the sick child; manage uncomplicated cases at primary health care level & identify indications for referral to the higher level.

Course Objectives :

After completion of the course the students will be enabled to:

1. Describe the history and scope of Balaroga.
2. Assess, diagnose and treat the common pediatric disorders.
3. Identify indications for referral conditions.
4. Apply strategies for health promotion and prevention of illness of children.
5. Apply fundamental principles for health promotion of children within the community.
6. Assess, classify and manage the illness of children aged 2 weeks-5 years applying the CB-IMCI approach.

Theory

Unit- 1: Kaumarabhritya-tantra and Balaroga: 5 hrs

- 1.1: Kaumarabhritya-tantra, Introduction, importance, Bala-vaya Vargikarana e.g. Kshirapa, Kshirannada, Annada etc.
- 1.2: Balaroga Pariksha-vidhi: Trividha Pariksha, Panchavidha Pariksha and Asthavidha Pariksha.

Unit- 2: Navajata Shishu Paricharya: 7 hrs

- 2.1 Pranapratyagamana (resuscitation), Jatakarma, Nadi-upakalpana, Shishu-avagahana, Rakshoghna-karma and Stanyaprayavartana- purva Ahara-vidhi (feeding of new born before production of breast milk).
- 2.2: Navajata Shishu-parikshana (examination of newborn baby), congenital abnormalities e.g. imperforated anus, harelips, cleft palate.
- 2.3: Management of premature and low birth-weight (LBW baby).

Unit- 3: Stanya Prakarana: 7 hrs

- 3.1: Stanyapana & Dhatri, importance of Stanyapana (breast feeding) & causes of Stanyanasha.
- 3.2: Characteristics of Suddha Stanya, general properties and Tridoshaja of Balarogas due to Dustastanyapana.
- 3.3: Management of Stanya-doshas, Stanya Sanshodhana Dravyas and milk promoting method.

- Unit- 4: Kritrim Ahara and Annaprashana (Artificial Feeding and Weaning):** **7 hrs**
- 4.1: Artificial feeding: Introduction advantages and disadvantages.
 4.2: Method of food preparation, quality and quantity of different foods and feeding of a child, disadvantages of over and under feeding.
 4.3: Annaprashana (weaning), methods of weaning.
- Unit- 5: Vriddhi, Vikasa and Poshana (Growth, Development & Nutrition):** **12 hrs**
- 5.1: Development of childre, reasons for failure to grow normally.
 5.2: Causes, clinical features and management of Phakka, Marasmus, Kwashiorker, Pandu and diseases caused by deficiency of vitamin A, B complex, C, D K, Mimerals, Iodine, Iron and Calcium.
- Unit- 6: Immunization:** **5 hrs**
- 6.1: Immunity: Introduction, sterilization, storage and handling of equipment and cold chain maintenance of vaccine.
 6.2 Immunization schedules for B.C.G., D.P.T., Measles and Polio including age, site or route of administration, method and contraindication.
- Unit- 7: Rogaprakarana and Balagraha:** **12 hrs**
- 7.1: The causes, clinical features and management of the following diseases:
 (i) Nabhitunadi (ii) Nabhipaka (iii) Dantodabhedakalina-
 vyadhi
 (iv) Balatisara (v) Kshiralasaka (vi) Gudapaka
 (vii) Gudabhransha (viii) Kukunaka (ix) Parigarbhika
 (x) Mahapadama (xi) Pratishyaya (xii) Swasha
 (xiii) Kasa (xiv) Yakritodara Vriddhi (xv) Kamala
 (xvi) Mukhapaka (xvii) Krimi and (xviii) Shaishaviya
 Pakshaghata
- 7.2: Balagraha, types, causes, clinical features and management of Balagraha.
- Unit- 8: Common Infectious Diseases :** **30 hrs**
- 8.1: Causes, clinical features and management of following infectious diseases:
 (i) ARI, (ii) Pneumonia, (iii) Diphtheria,
 (iv) Pertusis, (v) Tuberculosis, (vi) Poliomyelitis,
 (vii) Tetanus, (viii) Measles, (ix) Mumps,
 (x) Meningitis, (xi) Glomerulo nephritis (xii) Nephrotic syndrome.
- 8.2: Causes, Clinical features and treatment of following parasite infestation:
 (i) Round worm, (ii) Hook worm (iii) Whip Worm
 (iv) Tape worm (v) Thread worm (vi) Entamoeba histolytica
 and
 (vii) Giardia lamblia.
- 8.3: Causes, clinical features, complication and management of Rheumatic fever.
 8.4: Skin diseases:
 (i) Diaper rashes (Napkin rash), (ii) Scabies, (iii) Ring
 worm,
 (iv) Impetigo and (vi) Eczema

Unit- 9: Accidental Injuries, Poisoning, Choking and Abuse: 5 hrs

- 9.1: Accidental injuries: Most prevalent injuries, preventive measures to reduce incidence from falls, burns, vehicular accidents, animal bites, choking and poisoning.
- 9.2: Clinical features of a child facing neglect or abuse (physical, sexual or psychological) at home or school, the incidence,
- 9.3: Incidence, causes and health outcomes of child labor and child trafficking.

Unit- 10: Integrated Management of Childhood Illness (IMCI): 6 hrs

- 10.1: Purpose and process of integrated management of childhood illness (IMCI), IMCI guidelines to assess, the case of a child with danger signs.
- 10.3: IMCI guidelines to assess illness classification, treatment and counseling for the child age 2 months to 5 years presenting:
 - (i) General danger signs, (ii) Cough or difficult breathing,
 - (iii) Diarrhoea, (iv) Fever,
 - (v) Ear problems (vi) Malnutrition and anemia.
- 10.2: IMCI guidelines to assess, classify, treat and counsel for the child age 1 week to 2 months presenting:
 - (i) Possible bacterial infection, (ii) Diarrhoea and dehydration,
 - (iii) Feeding problems or low weight.

Practical

Unit 1. Perform the following observational duty in Pediatric Hospital Ward and Out Patient Pediatric Clinic: 12 hrs

- 1.1: Observe and record diagnosis and management of at least 10 cases
- 1.2: Write histories of 6 pediatric cases including birth history.
- 1.3: Perform a complete physical examination of pediatric patient.

Unit 2. Perform the following observational duty in Maternal & Child Health (MCH) Clinic: 8 hrs

- 2.1: Observe and record 5 cases of delivery and care of new born babies each.
- 2.2: Counsel Mothers regarding feeding, nutrition, hygiene, use of ORS and family planning.
- 2.3: Observe/perform administration of B.C.G, D.P.T., measles, oral polio vaccines and other vaccines.
- 2.4: Assess the infant regarding growth and development, congenital abnormalities and injuries.
- 2.5: Observe and distribute vitamin supplements as needed.

Unit 3. Perform the following observational duty in Ayurved Aushadhalaya/Health Centres: 12 hrs

- 3.1: Observe and record diagnosis and management of any 10 cases.
- 3.2: Identify and refer cases requiring higher level of care.

Text Books:

1. Kaumarabhritya, Dr. Devendra Nath Mishra, Chaukhambha Sanskrit Pratisthan, Delhi, India.
2. Kaumarabhritya Tantra, Dr. Kashiraj Sharma Subedi, Sajha Prakashan, Lalitpur, Nepal.
3. Essential pediatrics, O.P. Ghai, CBS Publishers and Distributors, New Delhi, India.
4. Child health and Nutrition, Dr. R.K. Ahikari, HLMC, IOM, TU, Kathmandu, Nepal.

Reference Books:

1. Ayurvediya Prasuti-tantra Evam Striroga (Part I&II), Dr. P.V. Tiwari, Chaukhambha Orientalia, Varanasi, India.
2. Kaumarabhritya, Dr. Raghubir Prasad Trivedi, Chaukhambha Sanskrit Series, Varanasi, India.
3. Useful portions of Charaka-samhita, Sushruta-samhita, Kashyapa-samhita, Astanga-sangraha and Ashtanga-hridaya.
4. A Hand Book of Pediatric Problems, Dr. P.R. Sharma, HLMC, IOM, TU, Kathmandu, Nepal.
5. IMCI Participants' Handbook, Facilitator Guide, Booklet, Charts, Wall-papers etc. from MoHP, WHO, UNICEF.

GENERAL MEDICINE

Total Hours: 128 hrs (4 hrs/week)

Theory: 96 hrs (3 hrs/week)

Practical: 32 hrs (1 hr/week)

Course Description:

This course is designed to provide students the knowledge and skills about general medicine. It deals with the diagnostic processes applied to the history and physical examination of the patient and specific to internal medicine, mental health conditions and common skin diseases. It emphasizes on etiology, clinical features, differential diagnosis, management, referral conditions and preventive measures of each disease or condition.

Course Objectives:

On completion of the course the learner will be enabled to:

1. Perform a thorough history and physical examination, analyze and interpret the findings to make a rational provisional diagnosis.
2. Identify the etiologies and clinical features of common systemic disorders.
3. Manage and counsel the common systemic disorders.
4. Describe the multifactor causes of mental health conditions.
5. Identify opportunities for health education, preventive measures or rehabilitation.
6. Identify the clinical features of common skin diseases and conditions.
7. Select appropriate treatment and medication for skin diseases and conditions.
8. Identify indications that a case requires referral to a higher level or specialty facility.
9. Describe the current statistics and resources for mental health in Nepal
10. Identify the clinical features, investigation, diagnosis, appropriate treatment and medication for sexually transmitted infections and conditions.
11. Identify the role of the health worker in preventing health center.

Theory

Unit- 1: Clinical Methods (History Taking and Physical Examination): **8 hrs**

1.1: Principles and procedures for collecting and interpreting clinical data, importance of establishing trust through introduction with patient/family by making introductions, showing respect, listening attentively, and remaining nonjudgmental.

1.2: Process of data analysis and provisional diagnosis

1.3: Purpose of investigations in differentiating between possible diagnosis and meaning & implication of “false positive” and “false negative” findings.

1.4: History taking, physical examinations (general & detail systemic), provisional diagnosis & case management.

Unit- 2: Hematological & Cardiovascular Conditions **10 hrs**

2.1: Morphological classification, clinical features, differential diagnosis, investigation, complications, management and prevention of different types of anemia and its socio cultural factors for incidence of anemia in Nepal.

2.2.1) Etiology, incidence, cardinal signs, clinical features and differential diagnosis of the following conditions.

- a. Angina pectoris
- b. Myocardial infarction
- c. Cardiac arrhythmia
- d. Hypertension
- e. Valvular disorders
- f. CCF

2.2. 2) Uncomplicated case management and indications for immediate referral to a higher level facility.

2.3: Definition, types , Etiology, clinical features, investigation, complication, differential diagnosis, management, stabilizing patient before transfer and referral conditions of haemostatic disorders (ITP, Hemophila & DVT) and atherosclerotic occlusive disorders.

Unit- 3: Respiratory Disorders

10 hrs

3.1: Incidence, etiology, clinical features, differential diagnosis, investigations, complication, preventative measures and management of the following conditions.

- a. Acute bronchitis
- b. Pneumothorax
- c. COPD
- d. Pleural effusion
- e. Pneumonia
- f. Bronchial asthma

3.2: Etiology, classification, causative organism, incidence, clinical features, differential diagnosis, investigation, complications, management and DOTS therapy in prevention and control of tuberculosis (TB).

Unit- 4: Gastrointestinal Disorders:

7 hrs

4.1: Clinical features, classification, management, prevention and control of diarrhea & dysentery, counseling and assessment of diarrhea based on the dehydration.

4.2: Incidence, etiology, clinical features, differential diagnosis, investigations, complication, preventative measures and management of the following conditions.

- a. Oral thrush
- b. Gastro-esophageal reflux
- c. Peptic ulcer diseases (PUD)
- d. IBS
- e. Gastric carcinoma

Unit- 5: Protozoal infection Helminthes Infestations:

5 hrs

5.1 Incidence, etiologies, diagnosis, treatment, complications and prevention of following condition:

- a) Amoebiasis
- b) Giardiasis
- c) Pin-worm
- d) Hook-worm
- e) Round-worm

- f) Thread worm
- g) Tape-worm
- h) Whip-worm

Unit- 6: Endocrine Disorders:

5 hrs

6.1: Incidence, classification, etiology, clinical features, differential diagnosis, investigations, complication, preventative measures and management of the diabetes (DM - I & II, DI, Gestational diabetes, MODY (Maturity Onset diabetes of Young)).

6.2: Incidence, etiologies, diagnosis, management and health education for prevention and control of thyroid disorders:

- a. Hypo-thyroidism
- b. Hyper-thyroidism
- c. Goiter
- d. Auto-immune disorders

Unit- 7: Hepatic Disorders:

5 hrs

Classification, etiology, clinical features, differential diagnosis, investigations, complications, prevention, management & indications for the referral conditions of following conditions.

- a. Cirrhosis of the liver,
- b. Amoebic liver abscess
- c. Ascites
- d. Hepatitis

Unit- 8: Disorders of Central Nervous System:

5 hrs

8.1: Etiology, clinical features, and investigations, differential diagnosis, preventive measures, management and referral of following conditions.

- a. Meningitis
- b. Encephalitis
- c. Cerebral vascular accident (CVA)
- d. Tetanus

8.3: Etiology, classifications, diagnosis, treatment, prognosis, rehabilitation, counseling and prevention of the following conditions:

- a. Multiple sclerosis
- b. Cerebral palsy

Unit- 9: Urinary Disorders:

4 hrs

9.1 Etiology, clinical features, differential diagnosis, and investigations, early diagnosis, complications, management & prevention of the following conditions:

- a. UTI (Urinary Tract Infection)
- b. Renal failure
- c. Glomerulonephritis
- d. BPH (Benign Prostatic Hyperplasia)

Unit- 10: Musculoskeletal and Other Disorders:

5 hrs

10.1: Incidence, types, and clinical features, contributing factors in the development, diagnosis, management and prevention of the following conditions.

- a. Osteoarthritis
- b. Rheumatoid arthritis
- c. Gout
- d. Muscular dystrophy
- e. Rheumatic fever

Unit- 11: Psychiatry:

10 hrs

11.1: Causes, types, mental history, components of mental status examination, diagnostic criteria and socio cultural factors resulting the incidence of mental illness, assessment of suicidal risk and counseling for the suicide prevention in Nepal.

11.2: Etiology, clinical features & management of the following conditions:

2 hrs

- a. Psychosis
- b. Neurosis
- c. Anxiety
- d. Depression
- e. Phobia

11.3: Causes, types, mental history incidence, negative effects, motivating factors, signs and symptoms and risks and management of withdrawal syndrome of the following conditions.

- a. Alcohol abuse
- b. Drug abuse
- c. Other Addiction

11.4: Terminologies related to psychiatric disorders.

paraphilias, voyeurism, pedophilia, exhibitionism, sexual sadism, sexual abuse, sexual assault, vaginismus, dyspareunia , masturbation and premature ejaculation.

11.5: Etiology of psychosexual disorders & management of male and female sexual dysfunctions.

11.6: Etiology, types, clinical features, associated risk factors, management, complication, and prevention of the following conditions.

- a. Epilepsy
- b. Mental retardation
- c. ADHD (Attention Deficit Hyperactive Disorders)

Unit- 12: Dermatology:

10 hrs

12.1: Common symptoms and preventive measures of skin diseases and characteristics of primary & secondary lesions of skin.

12.2: Etiology, clinical features & management of the following conditions:

- a. Acne vulgaris
- b. Psoriasis
- c. Vitiligo

- d. Eczema
- e. Dermatitis
- f. Scabies
- g. Skin infestation (Pediculosis & lice)

12.3 Etiology, clinical features & management of the following conditions.

- a. Viral infections of the skin (Warts and Herpes infection)
- b. Bacterial infection (erysipelas, impetigo, folliculitis, boils)
- c. Fungal infection (tinea infections)

12.4: Causes, signs, symptoms and treatment of topical and systemic drug eruptions & urticaria, drug reaction and acute eruption.

12.6: Causative agents, types, management & government policy for the prevention and control of leprosy, drugs used in multi-drug therapy (MDT) and their common side effects, detection and management of Type I and Type II reactions of leprosy and related disabilities.

Unit- 13: Sexually transmitted infections diseases.

12 hrs

13.1: Etiologies, modes of transmissions, clinical features, complications treatment, counseling, and prevention of the following conditions:

- a. Gonorrhoea
- b. Chlamydia
- c. Syphilis
- d. Chancroid

13.2: i) Etiologies, epidemiology, modes of transmissions, clinical features, Window period, Stages of the infection, Laboratory investigations and interpretation, treatment, counseling, and prevention of HIV/AIDS in Nepal.

ii) Current concepts in the use of antiretroviral therapy, Health education in the prevention, management and de-stigmatization of HIV/AIDS.

iii) National policy in the control of HIV/AIDS, VCT (voluntary counseling and testing)

Practical

32 hrs

1. Examine patients with detail history taking and maintain case reports of two major and three minor cases from each systems:
 - a) Cardiovascular system
 - b) Respiratory system
 - c) Gastrointestinal system
 - d) Hepatic disorders
 - e) Urinary system
 - f) Musculoskeletal system
 - g) Endocrine system

Text Books:

1. Diagnostic and Treatment Manual for Primary Health Care in the District, K. K. Kafle & Pinniger R.G. distributed by HealthLearningMaterials Center (HLMC), Tribhuvan University, Nepal.
2. Communicable Disease, S. Dhungel & U. Pathak, Educational Enterprises, Kathmandu.
3. Differential Diagnosis, U.Pathak, Educational Enterprises, Kathmandu..
4. Textbook of Medicine, S. Dhungel & U. Pathak, Educational Enterprises, Kathmandu.
5. Medical Problems for Health Post Workers, P. Sayami, HLMC, Kathmandu.
6. Mental Health for the Primary Health Care Worker,HLMC, Kathmandu.

Reference Books:

1. Manual of Drugs and Therapeutics: M. P. Joshi and R. K. Adhikari, HLMC, Kathmandu.
2. Current Medical Diagnosis and Treatment: L.M. Tierney et al., Appleton & Lange, Stanford.
3. Davidson's Principles and Practice of Medicine: Churchill Livingstone, London.
4. Diagnostic & Statistical Manual of Mental Disorders: American Psychiatric Association, WashingtonD.C.
5. Psychiatric Mental Health Nursing: K.M. Fortinash et. al. St. Louis, 2000.

COMMUNITY MEDICINE

Total Hours: 128 hrs (4 hrs/week)
Theory: 96 hrs (3 hrs/week)
Practical: 32 hrs (1 hr/week)

Course Description:

This course is designed to provide students the skills and knowledge about preventive and curative treatment of infectious diseases.

Course Objective:

After completion of the course student will be able to:

1. Define the health and environment and explain the scope of community health.
2. Explain the prevention and control of communicable and Non-Communicable Diseases process.
3. Manage proper excreta disposal and purification of water.
4. Identify the etiology, pathology, clinical features and management of common communicable and non-communicable disease.
5. Manage and counseling for mental illness and drug-abuse.

Theory

Unit- 1: Introduction to Community Health: 14 hrs

- 1.1: Meaning of health, health and disease, scope of communicable personal and social health, dimension, determinants and indicators of health.
- 1.2: Spectrum of disease, community and social medicine.
- 1.3: Janapadodhdhwamsa .
- 1.4: Importance of pure drinking water and water purification methods:
 - Household water purification.
 - Large scale water purification.
 - Well disinfection.
 - Different types of water borne diseases.
- 1.5: Types of latrine and excreta disposal.

Unit- 2: Concept of Diseases: 6 hrs

- 2.1: Term disease and disease control
- 2.2: Diseases/health problems that are under the control, elimination, eradication and surveillance of Nepal government's current health program.
- 2.3: General principles of controlling communicable and non communicable diseases.

Unit- 3: Morbidity and Mortality Rate of Commonly Prevalent Following Communicable Diseases in Nepal: 10 hrs

Enteric fever,	Malaria,	Dysentery (amoebic and bacillary),
Giardiasis,	Japanese Encephalitis,	Brucellosis,
Influenza,	Cholera,	Food Poisoning.

Unit- 4: Communicable Diseases **22 hrs**

Etiology, Mode of Transmission, Incubation Period, Cardinal Signs, Clinical Features, Investigation, Differential Diagnosis, Management, Complications & Preventive Measures of the Following Communicable Diseases:

Enteric fever,	Giardiasis,	Worm infestation,
Cholera,	Infectious Hepatitis	Food poisoning,
Poliomyelitis	Malaria	Japanese encephalitis
Brucellosis	Influenza	Tuberculosis
Mumps	German measles	Small pox
Chicken pox	Measles	Tetanus
whooping cough	Diphtheria,	Meningitis,
Bird flu,	STD,	SARS,
HIV/AIDS.		

Unit-5: Neglected Tropical diseases: **8 hrs**

Etiology, Mode of Transmission, Incubation Period, Cardinal Signs, Clinical Features, Investigation, Differential Diagnosis, Management, Complications & Preventive Measures of the Following Neglected Tropical diseases:
Trachoma (TRA), Lymphatic Filariasis (LF), Soil Transmitted Helminthes (STH), Ascariasis, Hookworm infestation, Trichuriasis, Leishmaniasis, Leprosy, Dengue, Rabies

Unit-6: Non-Communicable Diseases: **8 hrs**

Etiology, Clinical Features, Differential Diagnosis, Investigations, Complications, Management and Prevention of the Following Non-Communicable Diseases:
Hypertension, cardiovascular disease, Cancer, Diabetes, Obesity, Chronic Respiratory Disease, Anorectal diseases, Road Traffic Accident.

Unit- 7: Mental Health and Drug: **10 hrs**

- 6.1: Mental illness: common mental problems in Nepal and management of mental disorder.
- 6.2 Emerging mental health issues of marital, family based problems, travel related, migration, resettlement, and urbanization problems.
- 6.3: “Drug Abuse” : the diagnosis and management of drug abuse.
- 6.4: Socially significant disease: the effect and management of socially significant disease:
 - Smoking
 - Alcoholism

Unit- 7 School Health Services **6 hrs**

7.1 Objectives

7.2. Planning, Components and implementation strategies (including child — parent — teacher and community roles).

7.3 School level counseling for chronic absenteeism, drug abuse, and gender based issues, behavioral and learning problems.

7.4. Monitoring Health of school children and school staff.

Unit- 8 Health care of the Aged people

6 hrs

- 8.1. Public health implications of increasing trends in longevity of life.
- 8.2. Health planning strategies for enhancing quality of life of senior citizens.
- 8.3. Need, relevance and components of community based geriatrics care programs.
- 8.4. Aurvedic Approach of Swostha and Dirghayu (longevity of life)

Unit- 9 Health care for the Challenged

6 hrs

- 9.1 Vulnerability factors in health, for the physically and socio-economically challenged people.
- 9.2 Intervention strategies for desired behavioral change in the community, towards the physically challenged.
- 9.3. Multi-disciplinary approach in the health care of the physically challenged.
- 9.4. Community based rehabilitation for the physically challenged.

Practical

Unit-1. Community Health:

6 hrs.

- 1.1: Perform following methods of water purification:
Filtration, Chlorination, Boiling and Bleaching.
- 1.2: Observe wastes disposal method and dumping site.

Unit-2. Communicable Diseases

18 hrs.

- 2.1: Observe & examine 5 emergency cases in infections disease hospital.
- 2.2: Observe & asses 5 common OPD and IPD cases in infection disease hospital.
- 2.3: Observe and perform S/C, I/V, I/M method of injection.
- 2.4: Observe & perform collection of sputum, AFB stain and DOT'S programme.
- 2.5: Identify the cardinal sign of leprosy and asses MDT.

Unit-3. Mental health and Drug Abuse:

8 hrs.

- 3.1: Observe 5 mental disorder cases in mental hospital.
- 3.2: Observe drug abuse cases and rehabilitation centre.

Reference Books:

- 1. Preventive & Social Medicine, K. Park (Dr. John Everett Park), M/s BanarasidasBhanot Publisher, India.
- 2. Text Book of Medicine, S. Dhungel& U. Pathak, Educational Enterprises, Kathmandu, Nepal.
- 3. Infectious Diseases, S. Dhungel& U. Pathak, Educational Enterprises, Kathmandu, Nepal.
- 4. Annual Reports, Department of Health Services, MoHP, Kathmandu, Nepal.

CLINICAL PRACTICE

Nature: Practical at Hospital Setting
Duration: 72 days (2.5 months i.e. 480 hours (160 hrs/month)

A. Skills to be Performed Under Roga-nidana, Kayachikitsa & General Medicine: 30 days

1. General Rogi Pariksha:

- 1.1 Take general history of the patient.
- 1.2 Take temperature, pulse, respiration, and measure blood pressure.
- 1.3 Perform Tribidha, Panchavidha, Shadavidha, Astavidha and Dashavidha Rogi-pariksha.
- 1.4 Examine for dehydration, edema, clubbing, lymph nodes, jaundice, anemia and cyanosis.
- 1.5 Advise patients for laboratory investigations and read/interpret lab test reports.
- 1.6 Instruct, follow up and refer the patients as required.

2. Systemic Rogi Pariksha:

- 2.1 Perform the following Rogi-pariksha (systemic examinations):

Nadi Sansthan, Pranavaha Srota, Annavaha Srota,
Hridaya and Raktavaha Srota Udara Pariksha .

3. Examine, Diagnose and Manage the Cases of Following Diseases:

Jwara	Vishama-jwara	Grahani	Pravahika
Daha	Amlapitta	Arsha	Chhardi
Trishna	Agnimandya	Krimi	Rajayakshma
Pandu	Ajirna	Swarabheda	Kamala
Aruchi	Hikka	Raktapitta	Atisara
Kasa	Hridroga	Shwasa	Madatyaya
Vatavyadhi	Vishwachi	Gulma	Sotha
Murchchha	Pakshaghata	Vatarakta	Ashtodara
Kushtha	Sanyasa	Ardita	Aamavata
Prameha	Unmada	Gridhrasi	Mutrakrichchhra
Shitapitta	Apasmara	Kampavata	Urustambha
Shula	Mutraghata	Udarda	Yoshapasmara
Atatwabhinivesha	Abavahuka	Mutrashmari	Kotha
Paurushagranthi-vridhi	Statusasthmatics,	Status epileptics,	Coma,
Shock,	Hemorrhage,	Hyperpyrexia,	Hypothermia,
Retention of urine,	Acute abdomen,	Angina pectoris (Heart attack),	
Burn & scald,	Dehydration,	Poisoning,	Snake bite
Insect bite	Delirium. Visarpa	Cellulitis	Erysepalus
Herpes zoster/simplex			

B. Skills to be Performed Under Shalya and Shalakya:

15 days

1. Shalya:

- 1.1 Observe and record diagnosis and management of following diseases:

Abscess,	Wound,	Hernia,	Hydrocele,
Retention of urine,	Piles,	Fistula,	Appendicitis,
Acute abdomen,	Fracture,	Dislocation and	Burns.

- 1.2 Write 5 long and 5 short history of Shalya patients.

- 1.3 Perform a complete local examination of Shalya patients.
- 1.4 Observe and perform suturing, suture removing, dressing, bandaging, plaster cutting & draining of abscess.
- 1.5 Observe/assist the diagnosis and management of fracture, hydrocele, hernia and phymosis.
- 1.6 Administer intramuscular, intravenous, subcutaneous and intradermal injections.

2. Shalakya:

- 2.1 Examine, identify the clinical features, assess sign & symptoms and make provisional diagnosis of minimum of five (5) cases of each of the following diseases:
 - Netraroga, Karnaroga, Nasaroga, Mukha-dant roga and Shiroroga.
- 2.2 Simulate the procedure for examining and differentiating following cases:
 - Netraroga, Karnaroga, Nasaroga, Mukha-dant roga and Shiroroga.
- 2.3 Assist and perform diagnosis and management of minimum of 3 cases of each of following cases:
 - Netraroga, Karnaroga, Nasaroga, Mukha-dant roga and Shiroroga.
- 2.4 Counsel, advice and refer of following cases (if necessary):
 - Netraroga, Karnaroga, Nasaroga, Mukha-dant roga and Shiroroga.

C. Skills to be Performed Under Prasuti and Striroga-vijnana:

18 days

1. Prasuti (Obstetrics):

- 1.1 Take history of minimum 10 cases of Garbhini and Prasuti
- 1.2 Identify sign and symptoms of normal Garbha (pregnancy).
- 1.3 Assess for symptoms of complications of Garbha that will require hospital management.
- 1.4 Identify risk factors that require treatment or special monitoring and prescribe that treatment.
- 1.5 Counsel Garbhini regarding preparation for delivery, nutrition, Swasthavritta, warning signs to report, immunization schedule, Stanapana and Parivara-niyojana.
- 1.6 Document the progress of pregnancy according to agency procedures.
- 1.7 Assess the prasavottara prasuti (postpartum client) for complication of Prasava (delivery).

2. Striroga (Gynecology):

- 2.1 Take history of minimum 10 cases of Striroga such as Shweta-pradara, Raktapradara, Kastaraja, Nastaraja, Stanasotha, Garbhashaya-bhransha, Upadansha, Bandhyatwa, Rajonivritti (menopausal syndromes).
- 2.2 Perform Samshodhana, Samshamana, Uttarvasti, Pichu, Varti, Lepa, Dhupana and Dhavana (Douche).
- 2.3 Identify & assist to treat vaginal discharge, prolapsed uterus, Shronivankshana shotha (PID) and STDs.
- 2.4 Identify & refer conditions requiring surgery: Intra-abdominal mass, fibroid, Arbuda, Bartholdi abscess.

3. Family Planning:

- 3.1 Counsel the benefits of family planning to clients and describe advantages & disadvantages of available contraception methods in understandable terms to clients.

- 3.2 Assess the client who seeks family planning assistance: to rule out pregnancy to determine ability to use certain methods to determine family/individual desires.
- 3.3 Assist the client to freely select an appropriate method of contraception and explain correct use of each method of birth control.
- 3.4 Identify strategies for dealing with undesired effects of each method.
- 3.5 Identify medical conditions that indicate use of a contraceptive method to prevent pregnancy.

D. Skills to be Performed Under Balaroga:

9 days

1. Pediatric Hospital Ward and Out Patient Pediatric Clinic:

- 1.1 Observe and record diagnosis and management of at least 2 cases of each of the following diseases:
 Diarrhoea, ARI, Kamala (jaundice), Krimiroga (worm infestations),
 Pandu(anaemia), TB, Nutritional disorders (marasmus, kwasiorker).
- 1.2 Write histories of 6 pediatric cases including birth history
- 1.3 Perform a complete physical examination of pediatric patient

2. Maternal & Child Health (MCH) Clinic:

- 2.1 Observe and record delivery of baby and care of new born babies (5 cases)
- 2.2 Observe counseling of mothers regarding feeding, nutrition, safe drinking water, hygiene, hypo/hyper thermia, use of oral rehydration and family planning.
- 2.3 Observe/administer B.C.G, D.P.T., measles, oral polio vaccines and other vaccines.
- 2.4 Assess the infant regarding growth and development, congenital abnormalities and injuries.
- 2.5 Observe /distribute vitamin supplements as needed.

3. Ayurveda Aaushadhalaya/Health Centres:

- 2.1 Observe and record diagnosis and management of any 10 cases of the following diseases
 Balatisara, Krimiroga, Pandu, Balashosha, Phakka,
 Parigarbhika, Shwasa, Kasa, Pratishyaya, Kamala
- Identify and refer cases requiring higher level care.

Evaluation Scheme and Distribution of Marks

Section	Evaluator/Paper	Distribution of Marks		Time	Marks
		Internal	Final		
1	Related hospital/health institute/organization' supervisor (continuous evaluation)	100			100
2	Related institute/school instructor/trainer/lecturer (continuous evaluation)	50	50	4 hrs	100
3	CTEVT appointed examiner (at the end of clinical practice)		75	4 hrs	75
Full Marks (Total Marks)		150	125		275

Important Note: Students must pass in each of the section of the evaluation as presented above with a minimum of 60% marks. This means they must secure 60 marks each in section 1, 2 and 3 respectively.

COMPREHENSIVE FIELD PRACTICE

Nature: Field Practice
Duration: 12 Days (80 Hours)

Course Description:

This course is designed to help the students with the practical knowledge and skills in the related professional practicing area.

Course Objectives:

On the completion of this course the students will be able to:

1. Provide primary/Ayurveda health services to the community, diagnose and treat uncomplicated physical and mental, acute and chronic health problems in the community.
2. Make home visits to fully assess the health needs of the family.
3. Provide health education in the community and make people aware regarding the importance of clean home and surroundings, proper wastage and sewage disposal.
4. Aware the community about the use of locally available medicinal plants.
5. Identify and respond to the constraints, limitation and potential of higher-level health facility.
6. Develop managerial skills and grow professionally.

Placement Schedule

Students are deputed to Ayurvedic hospital and health institutions/services, Ayurvedic pharmacies/drug manufacturing companies, community, herbal gardens or forest area to practice/study the following subjects/areas for the periods of 15 days after the completion of the in house study.

S.No.	Subject or Area	Duration (in site)
1	Community Diagnosis	3 Days (21 hrs)
2	Dravyaguna Vijnana	3 Days (21 hrs)
3	Rasashastra and Bhaishajya-kalpana	3 Days (21 hrs)
4	Health Institution Management	3 Days (21 hrs)
Total:		12 days (84 hrs)

A. Perform the following tasks:

1. Community Diagnosis:

- Develop a project timetable/schedule and community survey questionnaire for the CD project.
- Pretest the developed community survey questionnaire for the CD project.
- Create a geographical map of the selected community and establish good rapport with members of target population.
- Collect, process and interpret the data and assess the needs.

- Design and implement solutions through community micro projects with community participation.
- Evaluate the effectiveness of the solution.
- Write a report and give overview through presentations.

2. Dravyaguna Vigyana:

- Visit different forests for the collection of medicinal plants and prepare herbarium (minimum of 30 medicinal plants studied in the course)
- Identify the medicinal plants available in local community and share methods of collection, drying, processing, and storage of medicinal plants.
- Share about the use of local medicinal plants as medicine in need by community people.
- Prepare a comprehensive field report.

3. Rasashastra and Bhaishajya-kalpana:

- Prepare different types of Ayurvedic medications such as Choorna, Vati, Rasa, Bhasma, Asava-Arishta, Avaleha, Taila, Malaham etc.
- Observe methods of storage of raw materials for Ayurvedic medicines.
- Prepare comprehensive field report.

4. Health Institution Management:

- Describe the role, framework of public health organizations related to NGOs and INGO's in the country and their cooperation among themselves.
- Promote community involvement in health post/ Ayurved dispensary activities.
- Maintain records of institutional activities & good communication with all coordinating agencies.
- Supervise and direct the health post/ Ayurved dispensary staffs and maintain a safe and pleasant health post/ Ayurved dispensary environment.
- Maintain health post/ Ayurved dispensary supplies, inventories and logistics.
- Promote quality assurance principles in health post/ Ayurved dispensary activities.
- Prepare comprehensive field report.

Evaluation Scheme and Distribution of marks

Section	Evaluator/Paper	Distribution of Marks		Time	Marks
		Internal	Final		
1	Related hospital/ health institute/organization' supervisor (continuous evaluation)Including all the subjects/areas as mentioned above	25			25
2	Related institute/school instructor/trainer/lecturer (Based on activities performed and documents- including all the subjects/areas as mentioned on placement schedule)		12.5	3 hrs	12.5
3	CTEVT appointed examiner at the end of the comprehensive field practice/study (Based on activities performed and documents- Including all the subjects/areas as mentioned on placement schedule)		12.5	3 hrs	12.5
Full Marks (Total Marks)		25	25		50

Important Note: *Students must pass in each of the section of the evaluation as presented above with a minimum of 50% marks.*