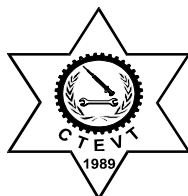


CURRICULUM

Technical School Leaving Certificate

Community Medicine Assistant (Pre-SLC Program)



Council for Technical Education and Vocational Training
Curriculum Development Division
Sanothimi, Bhaktapur
2054 (1997)

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Program Description

The requirement of basic level health worker is still scarce in the country, especially in the grass root level of rural community. Training of this level of health worker, called community medicine Assistant (CMA) presently becomes the one of the major responsibilities of CTEVT. By doing so, Institute of Medicine can concentrate in preparing higher level skilled human resources needed for the country. Thus with the joint effort by CTEVT and Institute of Medicine, TU together walk to materialize the concept of health for all. In this new concept it will become more necessary or produce a huge number of CMA to meet the target of Ministry of Health and Population without compromising quality of the training. To do so, CTEVT and private training institutions accredited by CTEVT are starting to work for this great challenging task. In this context a well-developed curriculum is a fundamental pre-requisite for the training of CMA. The foundation of the curriculum is the results of the DACUM workshop for Auxiliary Health Worker, conducted in May 1992. The DACUM workshop produces an up-to date list of tasks performed by workers in AHW occupation and therefore provided a valuable insight into what actually required of such health workers in this occupation. The next phase of developing this guide consisted of validating the task lists with a larger sample of health workers and their users.

Having with the feedbacks after the successful implementation of this curriculum, CTEVT Curriculum Development Division revised this curriculum in 2004 for the first time. However technology is changing frequently and new technology as well as diseases emerge in the health sector. Considering the above facts and feedbacks received from different training institutes and stakeholders, CTEVT/CDD organized workshops with subject experts of long experience in the field in different level and the curriculum now is in this shape as it is believed that this revised curriculum guide of CMA will correct all the observed shortcomings.

In addition of this, CTEVT Curriculum Development Division got various suggestion from the trainers of the training institutions, which are running CMA program for many years.

The trained graduates are chiefly employed by Ministry of Health and Population as AHW and other NGOs and INGOs for the development of community of Nepal placing emphasis on the preventive and primitive health, giving basic curative health care based on the principle of primary health care approach.

Hence this curriculum is designed to implement in the technical schools under the CTEVT to produce basic level health worker in the country. These basic level health workers called AHW would be the key persons to provide health in the peripheral level.

The candidates for the course would be selected from the students, who have passed the 10 grade need to go to a 24 month training in the training institution. However, all the candidates irrespective of their schooling will be required to take an entrance examination to assess their aptitude in the field. The candidates will be finally selected on the basis of merit list. The applicants should be physically sound and mentally matured having not less than 16 years of age. Such students from rural community might get the preference.

The course duration is 24 months (3120 hours) plus 5 months on the job training. Trainees will be placed in different areas of health care practice after completing final examination as an OJT. Trainees must complete the OJT training under the supervision of concerned supervisor.

Varieties of teaching learning methodologies such as mini lecture, discussion, case study, demonstration, re-demonstration, practical exercise, role play will be used in classroom and demonstration according to prescribed hours of theory and students must be exposed to various

clinical and field practice areas for prescribed period of time for practical experience to develop the skill on concerned subject. Demonstration applied in classroom teaching will be considered as theory class.

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

- **Printed Media Materials** (Assignment sheets, Case studies, Handouts, Information sheets, Individual training packets, Procedure sheets, Performance Check lists, Textbooks etc.).
- **Non-projected Media Materials** (Display, Models, Flip chart, Poster, Writing board etc.).
- **Projected Media Materials** (Opaque projections, Overhead transparencies, Slides etc.).
- **Audio-Visual Materials** (Audiotapes, Films, Slide-tape programs, Videodiscs, Videotapes etc.).
- **Computer-Based Instructional Materials** (Computer-based training, Interactive video etc.).

Students will be evaluated by written examination for theory and performance evaluation on various tasks according to the given criteria in practical subjects.

Aim of the Course

The aim of the course is to produce competent CMAs, who provides preventive, promotive, curatives and rehabilitation services as well as primary health care services for individuals, family, groups, and communities through various level of health delivery system such as Sub Health Post, Health Post, Primary Health Care Centre and District Hospitals of Nepal.

Overall Objective

At the end of the course, the CMA graduates will be able to support in providing basic health care, community health care including basic medicine, health management and environmental sanitation, basic medical procedure, basic surgery & first aid and MCH/FP/nutrition either in home or in health institution.

Specific Objectives

After the completion of this program, the CMA graduates will be able to:

- Support in providing basic health care to the clients through medical procedure by applying medical process.
- Plan and conduct different activities of health clinics.
- Identify the simple health disorders and their treatment.
- Identify basic health needs of the community people through community diagnosis on drinking water, nutrition, and environmental condition, MCH and take an appropriate action by approaching different multi-sectorial health.
- Identify the couples who need family planning services and counsel them for informed choice of family planning devices as their need.
- Visit the home for identifying the health need of individuals and family and take action appropriately.
- Provide health education to the individual, couples and community as required.
- Maintain reports and records of activities considering HMIS.
- Hold communication with the individual, family, and community in understandable way.

Course Duration

This course will be completed within 29 months/124 weeks/3920 hours; including 20 weeks (800 hours) On the Job Training (OJT) with supervision. The 5 months (800 hours) OJT will be compulsory after completing final exam.

- Total theory hours=1404
- Total practical hours= 1716
- Ratio of Theory and Practical (outreach practical only)= 4:6
- On the Job Training hours= 800
- Working hours = 40 hours per week.
- Academic weeks = 52 per year

Evaluation Scheme

- Regular internal evaluation of the trainees is to be conducted by the related instructors to ensure the proficiency over each tasks/ skills in each subject.
- Related technical knowledge of the tasks learnt by the trainees is to be evaluated through written test. Internal assessment will be conducted 3 times by the institute within training period.
- The 80% marks are allotted to the practical work and 20% is allotted to the related technical knowledge in each subjects.
- Controller of Examination, CTEVT will conduct final examination after completion of the course.
- For each subject 50 % of the weight age will be allocated to the internal assessment and the rest of the 50 % to the final examination. Both Marks will be shown in the Mark-Sheet, but the trainees must be separately passed in each evaluation/exam.
- The overall mark comes from adding the weight age score from internal assessment and mark from the assessment. Only the students who have passed the internal assessment can appear in the final exam.
- Students should secure 40% marks in theory and 60% marks in practical to pass the internal and final exam.
- Candidates who fail in the final exam can appear in the re-test scheduled by CTEVT.
- After completion of the final examination On the Job Training (OJT) will be administered.

Eligibility for Admission

Ten Class (Test) Pass

Admission Criteria

Candidates will be selected on the basis of entrance examination conducted by CTEVT.

Pattern of Attendance

Every student must have minimum of 80% attendance in theory and 90% attendance in practical to appear in internal and final examination.

Grading System

The grading system will be as follows:

<u>Grading</u>	<u>overall marks</u>
Distinction	80% or above
First division	75% to below 80%
Second division	65% to below 75%
Third division	Pass aggregate to below 65%

Certification

The Council for Technical Education and Vocational Training will award Technical School Leaving Certificate in "**Community Medicine Assistant**" to the candidate who successfully completes the requirements as prescribed by the curriculum.

Career Path

The graduate will be eligible for the position equivalent to Non-gazetted 2nd class/level 4 (technical) as an **Auxiliary Health Worker (AHW)** or as prescribed by the Public Service Commission. The graduate is eligible for registration with the Nepal Health Professional Council in the grade as mentioned in the Nepal Health Professional Council Act.

The objective of the on- the-job training

- To make the trainees more practicable in the particular technical area.
- To match the technical skill learn in the school with the needs of the employer.
- To increase self-confidence in the student so that he/she can face the real world of work.
- To make the employers feel the trainees to be their own employees and thus supervise the trainees activities in his duty so that employer is made to pay the trainees.
- To ensure the standard of the training to keep pace with the requirement of the employer.

OJT Areas

- District Hospital, Primary Health Care Center, Health Post and Sub Health Post

The total 500 marks for on-the-job training is distributed as follows;

- 200 to be awarded by the supervisor of the trainee in the user agency.
- 200 to be awarded by the relevant subject specialist from the school concerned.
- 100 to be awarded by an expert appointed by the CTEVT.
- Each school should plan the on-the-job training through discussion with representatives from user agencies and agree to a detailed plan for evaluating each trainee on the basis of the following guidelines.
- The 200 marks to be awarded by the Supervisor in the user agency are divided into 160 for whole performance and 40 for attitude.
- The 160 marks should be divided amongst five or more types of activity, the trainee would be performing during on-the-job training. E.g. If there were 5 types of activity, each activity would carry 32 marks.
- For each type of activity identified in above, the assessment should be based on efficiency, accuracy and quality of performance.
- The marks for attitude should be awarded considering attendance, punctuality, systematic ability to work, relationship with people, willingness to work, discipline and general behavior.
- The subject specialist and the subject expert who would each award marks out of 200 will do so on the basis of following. Depending on the school situation, the assessment cover is done by visiting the trainee at the work location or by discussion/interview at the school at the end of training.
 - Inspection of trainee's work, if possible
 - Discussion with trainee and his supervisor on trainee's attitude
 - Inspection of trainee's diary/log-book etc.
 - Oral questioning on the understanding of activities performed by the trainee.

The new revised curriculum will help to equip the students' adequate practical skills and required theoretical knowledge to perform the duties of basic health worker.

Upon graduation, The Council for Technical Education and Vocational Training will grant the student a certificate stating that the holder is qualified to perform duties of an Auxiliary Health Worker (AHW).

Allocation of Weeks and hours for Theory and Practical

Allocation of Weeks:

First Year

S.N.	Particulars	Weeks	Hours
1.	Study Block	23	897
2.	Skill lab practice (demonstration)	8	320
3.	Health post (PHC/HP/SHP)	4	160
4.	School Health Programme	2	80
5.	Community Field Practice	2	103
6.	Vacation: (Dashain/Tihar, Winter and Summer)	10	
7.	Revision Class	1	
8.	Final examination	2	
	Total Weeks:	52	1560

Second Year

S.N.	Particulars	Weeks	Hours
1.	Study Block	13	507
2.	Skill lab practice (demonstration)	9	360
3.	General Hospital clinic practice	8	320
4.	Janaswasthya/MCH/FP/Nutrition	4	160
5.	Community Field Practice	3	133
6.	Health Laboratory	2	80
7.	Vacation: (Dashain/Tihar, Winter and Summer)	10	
8.	Revision Class	1	
9.	Final examination	2	
	Total Weeks:	52	1560
		104	3120
	On the Job Training (OJT)	20	800
	Total	124	3920

Course Structure

First year

S.N.	Course Title	Nature	Class /Week		Total Class/Yr		Full Marks	
			T	P	T	P	T	P
1	Applied Nepali	T	3		117		100	
2	Applied English	T	3		117		100	
3	Applied Math	T	3		117		100	
4	Applied Science	T	3		117		100	
5	Anatomy & Physiology	T	3		117		100	
6	Health Education & Culture		2	6	78	234	50	150
7	Epidemiology & Communicable Diseases		2	2	78	78	50	50
8	Basic Medicine		2	5	78	195	50	100
9	Pharmacy & Pharmacology		2	4	78	156	50	100
	Total		22	18	897	663	700	400

Second Year

S.N.	Course Title	Nature	Class Week		Total Class/Hr		Full Marks	
			T	P	T	P	T	P
1	Health Management & Environmental Sanitation		3	7	117	273	100	150
2	MCH/FP/Nutrition		3	5	117	195	100	100
3	Basic Laboratory Technic		2	2	78	78	50	50
4	Basic Medical Procedure		2	6	78	234	50	150
5	Basic Surgery & First Aid		2	7	117	273	100	150
	Total				507	1053	400	600

Subject Title	Nature of instruction	Duration (Hrs)	Full marks
On the job training (OJT)	Practical	800	500

Note: The academic year consists of 39 weeks with 40 hours per week 1560 hours (39×40= 1560 hrs) per year.

Basic Requirement for CMA Course

Office Equipment:

There should be well-arranged equipment for training and office management.

- a. Computer
- b. Photo Copy Machine
- c. Printer
- d. Projector
- e. Fax
- f. Telephone

Hostel Management:

- a. Essential furniture
- b. Well managed bathroom, urinal.
- c. Well managed kitchen
- d. Warden room
- e. Visiting room
- f. Dining room
- g. Electricity
- h. Security
- i. Television
- j. Telephone

Required tools and materials

Clinical (Basic Medical Procedure):

- Thermometer (alcohol)
 - a. Rectal 1:2
 - b. Oral
- B.P set (Sphygmomanometer)
- Stethoscope 1.2
- Examine table 1
- Tongue depressor 2
- Diagnosis set 1
- Examination bed 1
- Torchlight
- Weighing machine 1
- Measuring tape
- Hand washing materials
- First aid box

Dressing

- Dressing table (Bed) - 1
- Dressing set - 2
- D & I set - 2
- Sterilizing set - 1
- Gloves (Different Sizes) 10 pairs
- Dressing trolley - 1
- Gause, Cotton, Bandage sufficient
- Foreign body removal set - 1

- Suture set - 1:10
- Kidney tray
- Local anesthesia
- Artery forceps
- Dissecting tooth
- Apron
- Perennial towel (As per requirement)
- Antiseptics (Phenol, Lysol, Savlon)
- Sanitary pad
- Surgical blade
- Scissors
- Dental forceps
- Sponge holding forceps
- Chattel forceps

Medical Procedure:

- Cold care set and baby care set - 2
- Foetuscope - 2
- Urine test set (Set tube, reagent, Spirit lamp etc.) - 4
- HB set
- Enema set - 1
- Catheter set (Adult + Baby size) As per requirement
- I.V drip set - 1
- I.V stand - 1
- Bowl or bath tube - 1
- Delivery set or midwifery kit - 2
- Speculum bivalve - 1
- Speculum sinus - 1
- I.U.D set - 1
- Perennial care set - 2
- Baby cot incubator +Delivery bed - 1
- Baby bath set - 2
- Vaccines / Cold chain box - 1
- Utensil / Materials for preparing superfluous - 1
- Utensils / Materials for preparing jeevan jal - 1
- Cold and hot fermentation materials - 1

Health Education, Sanitation and Community:

- Models of different types of latrine - 1 set
- Relevant poster, Pamphlets, flash cards - 1 set each revent subject
- Slide projector - 1
- Screen - 1
- Water test set (O.T test) - 1
- Transparencies - as per requirement
- Model of insects
- Related charts
- Model of garbage pits.
- Overhead projector - 1
- Overhead projector, Transparency set paper pens, slide, slide projector. Film projector visual aids, (Chart model, Poster etc.) Tape recorder
- T.V, VCR cassettes player according to subject
- Well setting community housing

- Poor setting community housing

Laboratory:

- Chemical balance
- Trays, Hypodermic needles and syringes
- Health post drug list and sample of drugs.
- Spirit lamp, Spirit
- Kerosene stove / heater
- Health Lab Unit:
- Microscope
- Sufficient test tube
- Spirit lamp
- Slides
- Hard glass tube (Sufficient)
- Other necessary equipment

Anatomy Demonstration Room

- Anatomy model
- Eye model
- Ear model
- Skeletal model (Bone)
- Full dummy for BMP
- Anne baby for BMP
- Skin model chart
- Muscular system chart
- Endocrine system chart
- Fetus for step by step
- Zoe model

Miscellaneous

- Syringe (2"+5"+10"+20"+50")
- Needles (18, 20, 22, 24, 25)
- Urinal
- I.V cannula
- I.V solution
- Heater or Stove
- Oxygen cylinder set
- Torchlight
- Ambu bag
- I & D set (As per requirement)
- Medicine tray
- Emergency drug
- Refrigerator
- Bedpan
- Sputum cup
- Rubber catheter (Different Sizes)
- Screen
- Metal catcher (Different Sizes)
- Ryles tube
- Materials for beading
- Cleaning set

These above materials must be arranged for conducting practical class effectively.

- a. Management of place for field practice and instructor
For practical training the institute should select appropriate site health post, health center. The institute should inform to CTEVT before sending the students to these places. The students should be sending together with subject related teacher.
- b. Class Room
There will be 40 students per classroom in theory class. Chairs should be arranged one square meter per student. Demonstration room, Workshop room and laboratory should be arranged for practice.

Furniture for Library

- Open Rack, table, and enough chairs

Instructor Staff/Management- Quality of the training must be maintained by appointing permanent qualified and skill teacher in their respected subjects. For clinical practice, the numbers of teaching staff should be determined on the basis of 1:4 students per teacher/part time teacher or instructor should be counted.

Minimum criteria of instructor is -

- a. Bachelor in nursing and equivalent (B.N)
- b. Bachelor in public health (B.P.H)
- c. Certificate level in nursing (C.L.N)
- d. Health assistant (H.A)

*** Trainers training required for all instructors**

Administrative Staffs

Account section / Assistant administration Typist, Librarian and room must be maintained.

Furniture Management

There must be sufficient chair, bench, and desks according to student ratio. There must be good arranged for clinical practice e.g. Table, Chair, Rack and Water etc. These must be necessary Table, Chair, Rack for instructor and staffs.

First Year

Suggested Master Plan for First Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STUDY BLOCK								DASHAIN, TIHAR VACATION				STUDY BLOCK							
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
WINTER VACATION				STUDY BLOCK				SKILL LAB PRACTICE						School Health Program		COMMUNITY FIELD PRACTICE			
39	40	41	42	43	44	45	46	47	48	49	50	51		52					
STUDY BLOCK				SKILL LAB PRACTICE		HEALTH POST ACTIVITIES		SUMMER VACATION		REVISION CLASS		FINAL EXAM							

Note: The individual technical schools can manage their vacation plan according to their climatic situation.

Subject: Applied English

Time: 117 hours

Course Description: This course aims at enabling the students to speak, read, write and understand by listening the English language in a standard manner. Hence the English language is as an international language, there is a great scope of it in Nepal. The mountainous part of Nepal is famous for tourism. People from all over the world come to visit the country. In this regard also, English is essential and a means of communication to the people of outer world.

Objectives are to:

- develop an understanding of and competence in spoken English
- communicate fluently and accurately with other speakers of English
- develop competence in understanding a variety of reading texts
- gain the skills necessary to write English appropriately and effectively
- develop ability to use simple reference materials
- develop an awareness of cultural and ethical values relevant to Nepal

Unit	Content	hrs allotted
1	<ul style="list-style-type: none">▪ Introduction to English language▪ Parts of speech▪ Identification of parts of speech▪ Sounds (Vowel, consonants, diphthongs)	10 hrs
2	<ul style="list-style-type: none">▪ Nouns, types and uses▪ Pronounce, types and uses▪ Adjectives, types and uses▪ Adverbs, types and uses▪ Verbs, types and uses▪ Prepositions, types and uses	10 hrs
3	<ul style="list-style-type: none">▪ Words, word formation, synonyms and antonyms	5 hrs
4	<ul style="list-style-type: none">▪ Sentences, types, formation and uses	5 hrs
5	<ul style="list-style-type: none">▪ Tense, tense contrast, types and uses	10 hrs
6	<ul style="list-style-type: none">▪ Conditional and causative sentences, types and uses	5 hrs
7	<ul style="list-style-type: none">▪ Articles, types and uses	5 hrs
8	<ul style="list-style-type: none">▪ Reported speech, types and uses	10 hrs
9	<ul style="list-style-type: none">▪ Voice, types and uses	10 hrs
10	<ul style="list-style-type: none">▪ Reading different stories, essays and articles with comprehensive practices	20 hrs
11	Composition <ul style="list-style-type: none">▪ Application▪ letters (personal, official and business)▪ story development▪ Paragraph writing▪ Essay writing▪ Story writing▪ Instruction writing▪ Bio-data preparation▪ Memo writing▪ Report writing▪ Speech preparation▪ Debates▪ Recite and understand simple English Poems	27 hrs
	Total	117 hrs

व्यावहारिक नेपाली

समय: ११७ घण्टा

कोर्ष विवरण:

यो कोर्षले विद्यार्थीहरूलाई स्तरीय नेपाली बोल्न, पढ्न, लेखन र बुझ्न सक्षम गराउँछ । नेपाली राष्ट्रभाषा हो र यसले नेपालीहरू बीच संचारको महत्वपूर्ण भूमिका निर्वाह गर्दछ । नेपालका विविध भाषा भाषीलाई संचारका लागि योग्य बनाउन र देशका कुनै पनि भागमा काम गर्दा आवश्यक पर्ने भाषाको उचित सुनाई, बोलाई, लेखाई, र पढाईका लागि स्थानीय समुदायका जनतासंग उपयुक्त संचारका लागि यो पाठ्य बस्तुले प्रशिक्षार्थीलाई आवश्यक सहयोग गर्नेछ ।

यो बिषय अध्यापनका उद्देश्यहरू:

- बोलिचालिको नेपाली भाषाको उचित बुझाई सीपको विकास गर्न,
- बोलिचालिको भाषामा लगातार र शुद्ध तरिकाले संचार गर्न,
- विविध किसिमका पाठ्यबस्तुका माध्यमबाट संचारका क्षमताको विकास गर्न,
- नेपाली राम्ररी र प्रभावकारी रूपमा लेख्ने सीप प्राप्त गर्न,
- सामान्य सन्दर्भ सामाग्रीहरूको प्रयोगका लागि क्षमताको विकास गर्न र
- नेपालका विभिन्न समुदायका जातजाती र सास्कृति प्रति सचेत हुन ।

इकाइ १: वर्णको परिचय

१० घण्टा

- अक्षरको प्रकार र प्रयोग
- स्वरको प्रकार र प्रयोग
- व्यञ्जनको प्रकार र प्रयोग
- व्याकरण सम्बन्धी साधारण ज्ञान

इकाइ २: पदविचार

१० घण्टा

- संज्ञाको परिभाषा, प्रकार प्रयोग
- सर्वनामको परिभाषा, प्रकार प्रयोग
- विशेषणको परिभाषा, प्रकार प्रयोग
- क्रिया विशेषणको परिभाषा, प्रकार प्रयोग
- क्रियापदको परिभाषा, प्रकार प्रयोग
- निपातको परिभाषा, प्रकार प्रयोग

इकाइ ३ : शब्द भण्डार

१० घण्टा

विभक्ति, प्रत्यय, कारक, समास, परिभाषा र प्रयोग

इकाइ ४: वाक्य बनोट

१० घण्टा

वाक्य निर्माण प्रक्रिया र प्रकार

इकाइ ५: वाक्यान्तर प्रक्रिया

५ घण्टा

वाक्य र वाच्य परिवर्तन करण, अकरण आदि इकाइ ६ : काल काल तथा काल परिवर्तन र तिनको प्रयोग	१० घण्टा
इकाइ ७ : लिङ्ग, पुरुष, वचन लिङ्ग, पुरुष, वचन एवं तिनका प्रकार र प्रयोग	१० घण्टा
इकाइ ८ : बोध र अभिव्यक्ति बोध विभिन्न कथा, लेख, निबन्ध पढ्ने र प्रश्न उत्तर गर्ने	१२ घण्टा
इकाइ ९ : रचना ● चिठी लेखन ● अनुच्छेद लेखन ● निबन्ध, कथा, लेखन ● निर्देशन लेखन ● स्मरण पत्र लेखन ● प्रतिवेदन लेखन	२० घण्टा
इकाइ १० : अनुच्छेद लेखन मनोवाद, वादविवाद, दैनिकी, प्रतिवेदन, व्यक्तिगत विवरण लेखन तथा अभ्यास ।	१० घण्टा
इकाइ ११ : नेपाली कविता वाचन तथा भित्ति पत्रिका तयारी	१० घण्टा

Applied Mathematics

Course description

Total hours: 117

This course is designed to equip trainees with basic mathematical knowledge and skills necessary for equipping to the competencies in the related occupation. This course deals with basic mathematics and statistics related to the occupation.

Competencies

At the end of the training the student will be able to:

Unit	Content	hrs
1.	Convert unit of measurement from one system to another system.	6
2.	Read and apply the conversion table.	6
3.	Measure length, breadth, and height of the object /geometrical figure.	6
4.	Calculate perimeter of the geometrical figures (triangle, square, rectangle, circle, and polygon).	6
5.	Calculate area (rectangle, circle, trapezoid, triangle etc).	6
6.	Measure mass/density/weight/capacity/Volume of solid and liquid.	6
7.	Add, subtract, multiply and divide the mixed multiple digit, mixed decimal numbers and mixed fractions.	6
8.	Calculate percentage.	4
9.	Calculate the amount of medicine before administering	4
10.	Convert centigrade VS Fahrenheit.	5
11.	Calculate simple and compound interest.	5
12.	Calculate costs per unit.	4
13.	Apply unitary rule.	4
14.	Demonstrate the number of female applicants of last five year of all trades of the technical school through simple bar diagram.	7
15.	Demonstrate the number of applicants by sex from the academic year 2058 to 2062 of the technical school through multiple bar diagram.	7
16.	Convert the number of patients flow in the MCH clinic of the school of last 10 days into percentage through pie chart.	7
17.	Calculate crude birth rate, general fertility rate, age specific fertility rate and total fertility rate of a sampled ward of the school located VDC or municipality.	7
18.	Calculate crude death rate, infant mortality rate, and age specific death rate of a sampled ward of the school located VDC or municipality.	7
19.	Calculate population growth rate of a sampled ward of the school located VDC or municipality through population pyramid.	7
20.	Interpret and present simple graphics, charts, and maps, choosing an appropriate form for the information being illustrated.	7

Applied Science

Course description

Total hours: 117

This course is designed to equip trainees with basic science knowledge and skills necessary for mastering the competencies in the related occupation. This course deals with the contents of physics, chemistry, zoology, and botany as a fused subject.

Competencies

At the end of the training the student will be able to:

1. Identify the parts of microscope and its use 4 hrs.
2. Describe simple machines related to nursing 6 hrs.
 - (a) Pulley
 - (b) Inclined plane
 - (c) Wheel & axle
3. Explain the difference among elements, compound, and mixture 5 hrs.
4. List the characteristics of acid, bases and salts 5 hrs.
5. Classify the living organism 9 hrs.
6. Describe and explain the plant & animal cell 4 hrs
7. Describe and explain the process of mitosis and meiosis 7 hrs.
8. Explain DNA as hereditary material 6 hrs.
9. Explain the theory of Mendel's law and Darwinism 10 hrs.
10. Describe the structure of viruses and list the characteristics 9 hrs.
11. Describe the structure of bacteria and list the characteristics 9 hrs.
12. Define transplantation and list its types 5 hrs.
13. Describe the application of biotechnology in medicine 5 hrs.
14. Define the term of climate and explain how the various factors affected. 5 hrs
15. Describe the types of pollution 9 hrs.
 - (a) Air
 - (b) Water
 - (c) Sound
17. Describe and explain: 12 hrs.
 - (a) Water cycle
 - (b) Carbon cycle
 - (c) Food chain
 - (d) Ecosystem
18. Describe the disasters 7 hrs.
 - (a) Man made
 - (b) Natural

Subject Title: Anatomy & Physiology

Course Description: This course will provide health workers with basic knowledge of the structure and function of the human body and changes that take place normal processes. The students care apply at the time of implementation of care of individual, family groups and communities to attain the optimal level of health.

Total Hours: 117

Full Marks: 100

S.N.	Task/Objectives	Contents	T
1	Define anatomical terminology	1. Introduction of Anatomy & Physiology 2. Definition of anatomical terminologies: A. Anatomical position B. Middle line C. Other terms <ul style="list-style-type: none"> • Superior, Inferior • Anterior, Posterior • Superficial, Deep • External, Internal • Peripheral, Central, Lateral 	5
2	Define human cell, its structure, functions, types and cell division	Definition, structure, Function, types of cells, cell division <ul style="list-style-type: none"> • tissues • organization of the body • system • cavity • membrane 	10
3	Define digestive organs, functions, locations, structure and accessory digestive organs.	<ul style="list-style-type: none"> • Name of digestive organs • Region of abdomen (borders and located organs) Function and diagrams of: <ul style="list-style-type: none"> • Mouth/oral cavity • Tongue • Teeth • Pharynx • Esophagus • Stomach • Small intestine • Large intestine • rectum • anus Location, structure and function of accessory digestive organs <ul style="list-style-type: none"> • salivary glands • liver and gall bladder • pancreas • Physiology of digestion 	12

4	<p>Describe the structure & function of heart and blood vessels</p> <p>Describe the composition, function and blood circulation.</p>	<p><u>Cardiovascular System</u></p> <ol style="list-style-type: none"> 1. Heart: position, structure and function 2. blood vessels <ol style="list-style-type: none"> a. Arteries: structure functions and location of: <ul style="list-style-type: none"> • aorta • carotid artery • subclavian artery • brachial artery • radial artery • ulnar artery • femoral artery • tibial artery b. Veins: structure, function and location of important veins: eg: superior venacava, inferior venecava, portal and pulmonary veins. c. Capillaries: structure and functions 3. Blood: <ul style="list-style-type: none"> • introduction • composition • functions • clotting mechanism • blood grouping 4. Blood circulation: <ol style="list-style-type: none"> a. systemic b. pulmonary c. portal d. foetal 5. Cardiac cycle 6. heart sound, heartbeat, pulse, blood pressure 	12
5	<p>Describe the organs, structure and function of respiratory system</p> <p>Explain the mechanism of respiration</p>	<ol style="list-style-type: none"> 1. Position structure and function of : <ul style="list-style-type: none"> • Nose and nasal cavity • Pharynx • Larynx • Trachea • Bronchi and alveoli • Lungs 2. muscle of respiration 3. type of respiration 4. Mechanism of respiration 5. Respiratory volumes 	10
6	<p>Familiarize with muscular System</p>	<ol style="list-style-type: none"> 1. Review the type of muscular tissues and its importance 2. List the different groups of muscles names and functions <ul style="list-style-type: none"> Muscle of face and neck Muscle of back Muscle of the abdominal wall 	8

		<p>Muscle of pelvic floor Muscle of respiration Skeletal muscle</p> <p>3. Clinically important muscles</p>	
7	Describe the composition, types, functions and classification of bone.	<p>Skeletal system <u>Bones</u> Definition, composition and function <u>Types of bone</u></p> <ol style="list-style-type: none"> 1. According to structure: Long bone, short bone, irregular flat and sesamoid bone 2. According to origin: cartilagenous, membraneous, tendoneous 3. According to composition: compact, spongy <p>List the name and numbers of bones <u>Axial skeleton</u></p> <ol style="list-style-type: none"> a. <u>Skull</u> <ol style="list-style-type: none"> 1. Cranium 2. Face 3. Sinuses 4. Fontanel of skull b. <u>Vertebral column</u> <ol style="list-style-type: none"> 1. Cervical 2. thoracic 3. lumbar 4. sacral 5. coceygeal <p><u>Function of vertebral column</u></p> <ol style="list-style-type: none"> c. <u>Thoracic cage</u> <ol style="list-style-type: none"> 1. Sternum 2. ribs 3. thoracic vertebrae <p><u>Appendicular skeleton</u></p> <ol style="list-style-type: none"> 1. shoulder girdle and upper limb (clavicle, scapula, humerous, ulna and radial, carpel meta carpel, phalenges) 2. Pelvic girdle and lower limbs (femur, tibia, fibula, patella, tarsal metatarsal, phalenges) 3. Arches of foot 	15
8	Describe the structure, functions and positions of urinary organs Describe the mechanism and composition of urine.	<p>Urinary System</p> <ol style="list-style-type: none"> 1. List and sketch the different parts of the urinary system 2. structure, function and position of ; <ul style="list-style-type: none"> - Kidney - Ureter - Bladder - Urethra 3. Mechanism of urine formation 4. Composition of urine 	10

9	Describe the structure & functions of external and internal female reproductive organs.	<p><u>Female Reproductive System</u> Structure and function of Female reproductive organs</p> <ol style="list-style-type: none"> 1. Review the pelvic cavity 2. Structure and function of external and internal female reproductive organs <ul style="list-style-type: none"> - Vulva - vagina - cervix - uterus - uterine tube - ovaries 3. Accessory organ (Breast) 4. Menstrual cycle and mechanism of menstruation 5. Definition and changes during Menarchy, menopause, puberty 	10
10	Describe the structure & functions of male reproductive organs.	<p><u>Male reproductive system</u> structure and function of male reproductive organs</p> <ul style="list-style-type: none"> • scrotum • testes • spermatic cord • seminal vesicles • prostate glands • urethra • penis 	5
11	Describe and differentiate endocrine and exocrine gland Describe the structure and functions of endocrine system Explain the male and female hormone	<p><u>Endocrine System</u></p> <ol style="list-style-type: none"> 1. Define and differentiate Endocrine and exocrine glands Hormone and enzyme 2. List important exocrine and endocrine glands 3. Position, structure, function, hormones secreted and functions of hormones secreted by: Hypothalamus, pituitary, thyroid, para thyroid, suprarenal, ovary, testes, pancreas 4. Mammary gland (exocrine) 	8
12	Describe the structure, functions and types of nervous system	<p><u>Nervous System</u></p> <ol style="list-style-type: none"> 1. Structure and function of different parts of brain <ul style="list-style-type: none"> • cerebrum • cerebellum • medulla oblongata • mid brain • pons varolli • Spinal cord 	6

		<ol style="list-style-type: none"> 2. Name and Function of <ul style="list-style-type: none"> • Cranial nerves • Spinal nerves 3. Structure, functions and types of neurons 4. Autonomic nervous system <ul style="list-style-type: none"> • sympathetic • para sympathetic 	
13	Describe the structure and functions of special sense organs	<p><u>Special sense organs</u></p> <ol style="list-style-type: none"> 1. Introduction 2. Tongue: structure and functions 3. Nose: structure and function, air sinuses (frontal, maxillary) 4. Ear: Structure and function of: <ul style="list-style-type: none"> • external ear • middle ear • internal ear 5. Eyes: Structure and function 6. Skin: <ul style="list-style-type: none"> • structure • function • special glands <ul style="list-style-type: none"> - sweat gland - sebaceous gland 	6
			117

Subject Title: Health Education & Culture

Course Desiccation:- One of the major functions of the graduates is to help to people change their behavior related to health in different settings such as; community, school and the clinics of health post, sub- health post and other health and medical care settings as well as identify positive/negative aspect of different culture relating health. In order to help change in these behaviors the graduates need to understand the concept of health education & communication, health culture and community diagnosis and develops skills of conducting activities related to their crucial fields. Therefore, the course on health education and culture has been included in the program. Upon the completion of this course the graduate will be able to communicate effectively with the people in the community and patient and visitor in the health care setting and plan and implement health education program in the basic health care delivery settings. Similarly student will be able to find out health problem in the community through field visit and conduct micro-health project through community survey under the supervision of the Instructor.

Total Hours: Theory: 78
Practical: 234

A. Health Education & Culture

S. N.	Tasks/Objectives	Contents	T
1	Explain principles & purpose of health education	<u>Health Education</u> 1. Definition 2. Principles & purposes of health education. 3. Importance of health education.	3
2	List the elements of health education	<u>Elements of H.E.</u> <ul style="list-style-type: none"> • Communication <ul style="list-style-type: none"> - define elements • Perception <ul style="list-style-type: none"> - Define importance • Learning process <ul style="list-style-type: none"> - Define ways of learning factor's influencing learning • Leadership <ul style="list-style-type: none"> - Definition, types and role • Change process <ul style="list-style-type: none"> - Define ways of change, obstacle • People participation <ul style="list-style-type: none"> - Definition, importance, role of health education for peoples participation. • Group dynamics: definition some propositions about groups. 	5

3	<p>Explain method of health education</p> <p>Give health education through individual small group & mass method.</p>	<p><u>Method of H.E.</u> Definition, advantages, disadvantages and uses of;</p> <ul style="list-style-type: none"> • Individual method: <ul style="list-style-type: none"> - Counseling, interview • Small group methods: <ul style="list-style-type: none"> - Group discussion - Demonstration - Role playing/ drama - Mini-lecture - Brain storming - Field trip. - Problem solving. - Workshop - Seminar • Mass method: <ul style="list-style-type: none"> - lecture - Exhibition 	8
4	<p>Describe the advantages, disadvantages and uses of media (AVM) of health education.</p>	<p><u>Media (AVM) of health education</u> (Definition, advantages, disadvantages and uses)</p> <ul style="list-style-type: none"> • Audio aids: <ul style="list-style-type: none"> Radio, cassette • Visual aids: <ul style="list-style-type: none"> - Poster - Pamphlet, flashcard, flipchart, flannel, board, (cut pieces), bulletin board, film strip, film slide, overhead projector. • Audio-visual aids: <ul style="list-style-type: none"> - Film show, Television. 	8
5	<p>Describe objectives, importance and components of health education program.</p>	<p><u>Concept of planning for health education program</u> Definition Objective Importance Components (information collection):</p> <ul style="list-style-type: none"> • Identification of needs, deciding content, setting of specific objective, selection of the method of H.E., preparation of material, schedule of implementation, monitoring, evaluation of health education program 	5
6	<p>Prepare model health education program on ORS, super flour, F.P., M.C.H., Immunization</p>	<ol style="list-style-type: none"> 1. Introduction 2. Steps of health education program; content, objective, teaching materials, teaching method, resource person, target group, time evaluation. 	2

7	Familiarize with school Health Programme	<ul style="list-style-type: none"> • Introduction • Purpose of SHP • Importance of SHP • Areas of School Health Program, <ul style="list-style-type: none"> a. Health instruction b. School health service c. Healthful school living d. School & community joint activities <ul style="list-style-type: none"> • Definition, ways of developing school & community relationship, school & community joint health activities 	5
8	<ul style="list-style-type: none"> • Describe the importance and components of lesson plan. • Conduct health instruction classes in the school. 	Lesson plan - Definition, importance and components of lesson plan - Heading part - Body (main) part <ul style="list-style-type: none"> • Specific objective • Material • Activities - Ending part <ul style="list-style-type: none"> • Evaluation • Home work 	2
9	Identify health problems of the student	Physical examination and Nutritional status <ul style="list-style-type: none"> • Height, weight, hair, ear, eyes, teeth, skin, nail, vital sign, vision test, hearing test, 	2
10	Describe the elements, principle, importance, types, barriers, advantages and disadvantages of communication	Communication <ul style="list-style-type: none"> • Definition of communication. • Importance of communication • Elements of communication • Principle of communication • Types of communication • Barrier of communication • Advantage and disadvantage of various method of communication • Factor affecting communication • Communication planning process 	6

B. Health Culture and Community

1	Describe the relationship of health and culture.	<u>Culture</u> <ul style="list-style-type: none"> • Definition • Relationship of health, behavior and culture • Identification of the major different 	2
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		ethnic group living in Nepal & their culture.	
2	Identify positive/negative aspect of different culture on health.	<ul style="list-style-type: none"> • Different cultural practices & its effects on health (personal hygiene; food selections, preparation & storage) • Traditional medical practices in Nepal (Historical background) treatment without scientific method, dhama jhakri traditional healer, priest lama, witches. 	2
3	Define cultural characteristic and its elements	<ol style="list-style-type: none"> 1. Cultural Characteristics 2. Elements of culture <ul style="list-style-type: none"> • Norms • Concepts • Superstition • Tradition • Customs • Religious practices • Social boundary 	2
4	<p>Familiarize with community Development</p> <p>Identify ways of viewing of community development.</p> <p>Describe the role of CMA for community development.</p>	<p><u>Community Development</u></p> <ol style="list-style-type: none"> 1. Concept of Community Development: <ul style="list-style-type: none"> • Definition, objective, Importance. 2. Ways of Viewing Community Development <ul style="list-style-type: none"> * Process * Method * Program * Movement 3. Role of C.M.A. for Community Development <ul style="list-style-type: none"> • As change agent • As motivator • As guider • As advisor • As Leader <ul style="list-style-type: none"> • As planner • As teacher 	2
5	Identify factors affecting community development.	<ul style="list-style-type: none"> • External agent • Multiple agent • Internal resource mobilization • Criteria for an adoption of the method according to need. 	1
6	Form an assisting committee.	<p><u>Form an assisting committee.</u></p> <ul style="list-style-type: none"> • Point to be consider to form an assisting committee. • Function of assisting committee. 	1

		<ul style="list-style-type: none"> • Kinds of committee. 	
7	Explain different community services	<u>Different community services</u> <ul style="list-style-type: none"> • Agriculture • Social • Education • Vocational • Co-operative • Environmental Sanitation • Drinking water. • Inter-sectoral coordination. 	1
8	Identify the local resources.	<u>Local resources</u> <ul style="list-style-type: none"> • Men • Money • Materials 	1
9	Explain components of local health development planning.	Concept of local health development planning. <ul style="list-style-type: none"> • Basic component of local health development planning. • Review of health need (observed, felt and real need) • Prioritization of health need. • Fixing goal /objectives of health program. • Assess resources which help health program. <ul style="list-style-type: none"> • Work plan formulation (Action plan) 	2
10	Implement the health program.	<u>Implementation of health program.</u> <ul style="list-style-type: none"> • Point to be considering to implement health program 	1
11	Describe the concept of monitoring, supervision & evaluation.	<u>Concept of monitoring, supervision & evaluation.</u> <ul style="list-style-type: none"> • Definition of monitoring, supervision and evaluation. • Differentiate between monitoring and supervision • Technique of evaluation (oral, observation, questionnaire) 	2
12	Define concepts of community & community diagnosis.	<u>Concepts of community & community diagnosis</u> <ul style="list-style-type: none"> • Definition of community. • Definition of community diagnosis. • Purposes. • Importance. 	2
13	Identify contents of community diagnosis.	<u>Components of community diagnosis</u> <ul style="list-style-type: none"> • Formal/informal leader & other helping hands. • Geographical status. • Educational status. • Demographic status. 	3

		<ul style="list-style-type: none"> • Health status. • Social class & racial struggle in the community (political status) • Positive/negative aspects of different castes & their culture. • Lack & short coming circumstances in community • Community resources. 	
14	Identify methods/tools of community diagnosis.	<u>Methods of Community Diagnosis</u> a. Rapid method (introduction). b. In-depth method (introduction). <u>Tools of Community Diagnosis</u> a. Define tools for rapid methods. I. RRA (Rapid Rural Appraisal) II. PRA (Participatory Rural Appraisal) includes focus group discussion	3
15	Prepare Instrument & pretest.	<ul style="list-style-type: none"> • Prepare question • Prepare interview schedule • Conduct pretest 	1
16	Explain the sample size and its methods	<u>Sample Size</u> Definition & introduction of; Census Sample Method of sampling <ul style="list-style-type: none"> • Random sampling • Purposive • Quota sample 	1
17	Describe the methods of processing information	<u>Data processing</u> <ul style="list-style-type: none"> • Data editing • Data coding • Classification and tabulation of data • Data Analysis and interpretation • Data presentation 	2
18	Write report & present	<u>A. Report writing</u> Structure of report (introduction, objective, analysis, suggestion, reference appendix). <u>B. Presentation in the</u> <ul style="list-style-type: none"> • Community • Institute 	1
19	Identify health need.	<u>Health need</u> <ul style="list-style-type: none"> • Felt health need • Observed health need • Real health need 	1
20	Explain the importance and process of micro health project	<u>Concept of micro health project.</u> <ul style="list-style-type: none"> • Introduction • Importance • Planning • Implementing 	1

		<ul style="list-style-type: none"> • Evaluating • Reporting • Lessons learned. 	
			58

Practical Hours: 234

Practical task

1. Identify the importance of Health Education in Health Protection and Promotion.
2. Identify & perform the different element of Health education.
3. Conduct Health Education program with different method.
4. Identify & use of different audio video media I Health Education.
5. Prepare & conduct Health Education program on ORS, Super flour, FP, MCH, Immunization Plan with necessary components for HE program.
6. Conduct School Health program.
7. Prepare & use of lesson plan in school Health program.
8. Perform simple physical examination for students in school.
9. Use & choose proper communication ways for Health Education.
10. Identify main ethnic group of Nepal, their culture and positive/negative aspect of different culture on health.
11. Identify cultural characteristic and its elements
12. Identify the factors that affect in community development.
13. Form an assisting committee.
14. Provide different community services
15. Identify local resources of the community
16. Implement different health programs
17. Monitor, supervise & Evaluate Health Development Program in the community
18. Identify contents of community diagnosis
19. Identify methods/tools of community diagnosis
20. Perform report writing & presentation
21. Identify health need of the community
22. Implement micro health project

Subject Title: Epidemiology & Communicable Diseases

Course Description: The purpose of this course is to make students able to know the basic concept of epidemiology & common communicable diseases prevalent in our country. This course also enables the student to explain the various epidemiological problems & tackle them & mainly prevent the communicable diseases in individual, family & community level.

Total Hours: Theory 78, Practical 78

S. N.	Tasks/Objectives	Contents	T
1	Define epidemiology, aims	<ul style="list-style-type: none"> • Introduction • Definition of epidemiology • Aims of epidemiology • Different between epidemiology and clinical medicine. 	8
2	Be familiar with various terminologies.	Definition of following terms <ul style="list-style-type: none"> ➤ infection ➤ infestation ➤ inflammation ➤ epidemic, endemic ➤ sporadic, pandemic ➤ zoonosis, incidence ➤ prevalence, fatality ➤ vector, carrier, exotic ➤ pollution, source ➤ reservoir, contamination ➤ surveillance, elimination, eradication ➤ infectious disease ➤ contagious disease ➤ communicable disease ➤ opportunistic infection ➤ Incubation period <ul style="list-style-type: none"> • period of communicability, iatrogenic infection, nosocomial infection 	10
3	Describe the components and importance of epidemiological triad	<ul style="list-style-type: none"> • Definition • Components (Agent, host & environmental factors) • Importance 	2
4	Identify the health indicators and their calculation	Introduction of health indicators Importance Define - rate, ratio and proportion Definition, Importance and calculation of: <ul style="list-style-type: none"> • Crude death rate (CDR) under 5 mortality rate (U5MR), Infant mortality rate (IMR) maternal mortality rate (MMR), neonatal mortality rate (NMR), crude birth rate (CBR), total fertility rate (TFR), gross 	10

		fertility rate (GFR), growth rate (GR), prevalence and incidence rate.	
5	Describe the types and importance of population pyramid.	Population pyramid * Definition * Types * Importance	2
6	Explain the method of disease transmission.	* Dynamics of disease transmission * Source, reservoir o Human o Animal o Inanimate * Routes of disease transmission o Direct o Indirect * Susceptible host	5
7	Explain the method of prevention & control of communicable disease.	* Concept and objectives of prevention * Levels of prevention. * Primary * Secondary * Tertiary Concepts of control Control of communicable disease a. Control of reservoir b. Blocking the channel of disease transmission c. Protecting susceptible host.	6
8	Explain the Method of epidemiological investigation.	Epidemiological investigation. - Definition - Objective - steps/process	2
9	Identify the immunization schedule, classification and immunizing agents. Perform immunization as per national immunization schedule.	1. Immunity - Definition - Classification acquired and natural active and passive artificial and natural 2. Immunizing agents A. Vaccines ▪ Live ▪ Killed ▪ Toxoid ▪ Combined ▪ cellular fraction B. Immunoglobulins C. Antisera 3. National Immunization schedule (vaccines BCG, DPT, Hepatitis B, Hib Measles, polio & T.T., JE, MMR) - Cold chain.	8

10	<p>Describe communicable and non-communicable diseases and differentiate them.</p> <p>Describe the causative agent, incubation period, mode of transmission, sign & symptoms, investigation and management of communicable diseases.</p>	<p>A. Introduction, meaning of communicable & non communicable disease.</p> <p>B. Causative agent, (predisposing factor) incubation period, mode of transmission, signs / symptoms, investigation, complications, prevention and management of following communicable diseases.</p> <p>1. Viral disease - Common cold, influenza (bird flue, swine flue), measles, poliomyelitis, chicken pox, mumps, AIDS, Hepatitis, Rabies, JE, yellow fever</p> <p>2. Bacterial diseases - Whooping cough, diphtheria, tetanus, TB (MDR, XDR), typhoid, cholera, food poisoning, diarrhea, dysentery (Amebic, Bacillary) Leprosy, syphilis, gonorrhoea, ARI.</p> <p>3. Protozoal disease - Malaria, kala-azar, Dengue Fever.</p> <p>4. Parasitic disease - Worm infestation. Ascariasis, hook worm infestation, enterobiasis, trichuriasis, taeniasis & cisticercosis, filariasis.</p> <p>5. Others - Plague, Pediculosis, scabies, ring worm.</p>	25
			78

Subject Title: Basic Medicine

Course Description: This course will provide an opportunity for students to apply knowledge and skills during the care of an individual, family and community, and solving the problems related to different medical diseases in the care setting.

Total Hour: Theory 78, Practical 195 Total Marks: Theory 50, Practical 125

S. N.	Tasks/Objectives	Contents	T
1	Take general History of the patient	1. General history Taking 2. Introduction <ul style="list-style-type: none"> • Importance of history taking 3. Components of history taking <ul style="list-style-type: none"> • Personal identification • Chief complaint • History of present illness (CLOBWAD) • Medical and surgical history • Family history, family tree • Socio-cultural history • Economical history • Allergic, medicine history • Immunization history • Marital history/menstrual history • Obstetric history 	3
2	Perform general examination of the patient from head to toe	<u>Importance of physical exam</u> General examination <ol style="list-style-type: none"> a. General condition, height, weight b. Jaundice, anemia, lymph nodes cyanosis, clubbing edema, dehydration (mild, moderate, severe) <ul style="list-style-type: none"> • Definition • Types • Sites to be observed • Normal conditions 	3
3	Examine vital signs	<ul style="list-style-type: none"> • Definition of vital signs • Review of temperature, pulse, respiration, blood pressure and weight 	2
4	Identify the methods of inspection of each system of human body	<u>Systemic examination of system or the human body</u> <ol style="list-style-type: none"> a. Inspection b. Palpation c. Percussion d. Auscultation e. Normal findings & abnormal findings 	2
5	Diagnose and manage anemia.	<u>Anemia: Definition</u> Cause, type, sign/symptom, prevention, treatment, complication, investigation, referral	2

6	Diagnose and manage Protein Energy Malnutrition (PEM)	<u>Protein energy malnutrition</u> <ul style="list-style-type: none"> • Definition, types, cause, symptoms/signs, prevention, treatment, complication, investigation • Review growth and development • Referral 	1
7	Diagnose and manage xerophthalmia	<u>Xerophthalmia</u> <ul style="list-style-type: none"> • Definition • Causes • Symptoms/signs • Treatment • Preventive measures • Complication • Referral 	1
8	Diagnose and manage beri-beri	<u>Beri-Beri</u> <ul style="list-style-type: none"> • Definition • Cause • Common symptoms/signs • Treatment • Preventive measures • Referral 	1
9	Diagnose and manage pellagra	<u>Pellagra</u> <ul style="list-style-type: none"> • Definition • Cause • Common symptoms/signs • Treatment • Preventive measures • Complication • Referral 	1
10	Diagnose and manage scurvy	<u>Scurvy</u> <ul style="list-style-type: none"> • Definition • Cause • Symptoms/signs • Treatment • Preventive measures • Complication • Referral 	1
11	Diagnose and manage rickets	<u>Rickets</u> <ul style="list-style-type: none"> • Definition • Cause • Common Symptoms/signs • Treatment • Preventive measures • Complication • Referral 	1

12	Diagnose and manage the problems of digestive system	<u>Common symptoms of disease of digestive system</u> <ul style="list-style-type: none"> • Definition, cause, diagnosis, management of: <ul style="list-style-type: none"> - Heart burn - Flatulence - Hematemesis - Nausea/vomiting - Constipation 	3
13	Diagnose and manage gastritis	<u>Gastritis</u> <ul style="list-style-type: none"> • Definition • Cause • Common symptoms/signs <ul style="list-style-type: none"> - Investigation - Treatment - Prevention - Complication - Referral 	1
14	Diagnose and manage peptic ulcer	<u>Peptic ulcer</u> <ul style="list-style-type: none"> • Definition • Classification • Causes • Symptoms and signs • Investigation • Treatment • Prevention • Complication • Referral 	1
15	Diagnose and manage Viral hepatitis	<u>Viral hepatitis</u> <ul style="list-style-type: none"> • Definition • Etiology • Classification • Clinical features • Investigations • Treatment • Complications • Referral 	2
16	Diagnose and manage Amoebiasis and Amoebic liver abscess	<u>Amoebiasis and Amoebic Liver Abscess</u> <ul style="list-style-type: none"> • Definition • Etiology • Clinical features • Investigations • Treatment • Complications • Referral 	2

17	Diagnose and manage Ascites	<u>Ascites</u> <ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigations • Treatment • Referral 	2
18	Identify, manage s/s of Respiratory system's problems	<u>Respiratory system</u> <p>a. Common symptoms [Definition, common causes]</p> <ul style="list-style-type: none"> • Cough • Dyspnoea • Haemoptysis • Chest pain • Cyanosis • Expectoration 	3
19	Diagnose and manage common cold	<u>Common cold</u> <ul style="list-style-type: none"> • Definition • Cause • Symptoms/signs • Prevention • Treatment (symptomatic) • Complications • Referral 	1
20	Diagnose and manage Tonsillitis	<u>Tonsillitis</u> <ul style="list-style-type: none"> • Definition • Cause • Symptoms/signs • Prevention • Treatment • Complications • Referral 	1
21	Diagnose and manage Rhinitis	<u>Rhinitis</u> <ul style="list-style-type: none"> • Definition • Cause • Symptoms/signs • Prevention • Treatment (symptomatic) • Referral 	1
22	Diagnose and manage Pharyngitis	<u>Pharyngitis</u> <ul style="list-style-type: none"> • Definition • Causes • Symptoms/signs • Prevention • Referral 	1

23	Diagnose and manage Sinusitis	<u>Sinusitis</u> <ul style="list-style-type: none"> • Definition • Types • Causes • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	1
24	Diagnose and manage Bronchitis/Bronchiolitis	<u>Bronchitis/ Bronchiolitis</u> <ul style="list-style-type: none"> • Definition • Types • Aetiology • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	2
25	Diagnose and manage Pneumonia/ARI (According to CBIMCI)	<u>Pneumonia/ARI</u> <ul style="list-style-type: none"> • Definition • Types • Aetiology • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	4
26	Diagnose and manage bronchial Asthma	<u>Bronchial Asthma</u> <ul style="list-style-type: none"> • Definition • Types • Aetiology • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	1
27	Diagnose and manage pulmonary & extra pulmonary Tuberculosis, MDR/XDR TB	<u>Pulmonary and extra pulmonary TB, MDR/XDR TB</u> <ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs 	4

		<ul style="list-style-type: none"> • Investigation • Prevention • Treatment • Complications • Referral 	
28	Diagnose and manage pleural effusion	<u>Pleural Effusion</u> <ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	1
29	Diagnose and manage pneumothorax	<u>Pneumothorax</u> <ul style="list-style-type: none"> • Definition • causes • Symptoms/signs • Investigation • Prevention • Treatment • Complications • Referral 	2
30	Diagnose and manage Chronic Obstructive Pulmonary disease (C.O.P.D)	<u>Chronic obstructive pulmonary disease</u> <ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigation • Prevention • Management • Referral 	1
31	Diagnose and manage problem of cardiovascular system	<u>Symptoms of cardiovascular systems</u> [Definition, causes, diagnosis, management of] <ul style="list-style-type: none"> • Fatigue • Palpitation • Edema • Cyanosis • Chest pain • Referral 	2
32	Diagnose and Manage Rheumatic Fever	<ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigation • Prevention • Management • Referral 	1

33	Diagnose and Manage Hypertension	<ul style="list-style-type: none"> • Definition • Types • Aetiology • Symptoms/signs • Investigation • Prevention • Management • Referral 	1
34	Diagnose and Manage Congestive Cardiac Failure (CCF)	<ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigation • Prevention • Management • Referral 	1
35	Diagnose and Manage Myocardial Infarction (MI)	<ul style="list-style-type: none"> • Definition • Aetiology • Symptoms/signs • Investigation • Prevention • Management • Referral 	1
36	Diagnose and manage symptoms of Genito urinary system	<p>Definition, causes, diagnosis, and management of genito-urinary system's symptoms:</p> <ul style="list-style-type: none"> • Renal colic • O edema • Haematuria • Frequency and urgency of micturation 	2
37	Diagnose and manage symptoms or genito-urinary system's diseases	<p><u>Genito-urinary system</u></p> <ul style="list-style-type: none"> • Definition, Aetiology, Clinical, Features, Investigation, Treatment, Complication Referral of • UTI [cystitis, urethritis] • Nephrotic syndrome 	2
38	Diagnose and manage the problems of endocrine system	<p><u>Endocrine system</u></p> <p>Definition, introduction, causes of endocrine system's symptoms:</p> <ul style="list-style-type: none"> • Delayed growth • Excessive growth • Obesity • Polyuria, polydypsia 	4

		<p>Definition, causes, clinical features, investigations, prevention and management, complications of endocrine system's diseases:</p> <ul style="list-style-type: none"> • Diabetes mellitus • Hyperthyroidism • Hypothyroidism • Non-toxic simple goiter 	
39	Diagnose and manage nervous system's symptoms/sings	<p><u>Nervous system</u> Definition , causes, Diagnosis, Management or Nervous system's symptoms:</p> <ul style="list-style-type: none"> • Headache • Fainting attack (syncope) • Convulsion • Unconsciousness 	2
40	Diagnose and manage the diseases of nervous system	<p><u>Nervous system</u> b. Definition, causes, types, investigation, prevention, treatment, complication of nervous system's diseases:</p> <ul style="list-style-type: none"> • Cerebrovascular accidents (CVA) • Meningitis [Bacterial, viral, tubercular] • Encephalitis 	2
41	Diagnose and manage skin diseases	<p><u>Skin diseases:</u> Symptoms of skin diseases:</p> <ul style="list-style-type: none"> • Itching • Pruritic • Skin eruptions [papules, pustules, vesicle, skin rash] <p>Definition, causes, clinical features, investigation, diagnosis, prevention, treatment and complication of:-</p> <ul style="list-style-type: none"> • Scabies • Ringworm • Impetigo • Eczema • Dermatitis • Acne • Psoriasis 	4
42	Diagnose and manage psychiatric problems	<p><u>Psychiatric problems:</u> Definition, types, causes, diagnosis, management of</p> <ul style="list-style-type: none"> • Neurosis • Depression • Psychosis • Schizophrenia • Epilepsy 	4

		<ul style="list-style-type: none"> • Mental retardation • Alcoholism and drug abuse • Psychosexual disorder • Conversion Disorder • Referral. 	
			78

Practical

Student should be able to;

Take the history and vital signs properly

Perform clinical examination properly

Perform proper diagnosis

Perform proper management and referral

Provide proper advice to patients and guardian

Practical of this subject can be perform at clinical skill lab, SHP, HP, PHC, General hospital.

Subject Title: Pharmacy/Pharmacology

Description: This course will provide students to change health related knowledge development attitude and practice of individual, family and community. Students will be able to support preventive/promotive community base health service in the community. During the course student will develop and maintain good rapid with community applying communication skills and conducting S.H.P. under the supervision of the Instructor.

Total Hour: Theory 78, Practical 156

Total Marks: Theory 50, Practical 100

S. N.	Tasks	Related technical Knowledge	T
1.	Explain the various terminology used in pharmacy and pharmacology	<p><u>Definition</u></p> <p>a. Pharmacy and Pharmacology - Types of pharmacy practice area, historical aspects</p> <p>b. Concept of pharmacology</p> <p>c. Function of clinical pharmacist</p> <p>d. Therapeutic drug monitoring</p> <p>e. <u>Pharmacological preparation:</u> Solution, Paste, Elixir, Mixture, Lotion, Liniment, Emulsion, Suspension, Syrup, Jelly, Tincture, Powder, Tablet and its type, Capsule and its type, Suppository Paste, Ointment, Cream, Paints, preservatives.</p> <p>f. <u>Pharmacological terminology:</u> Drugs, Medicine, Formula, Formulation, Manufacturing Date, Expire Date, Trade name, Generic name, preparation, dose, efficiency, batch (lot), convenience, bin-card, formulary, indication, contraindication, therapy, side effects , drug toxicity, toxic effects, bioavailability, precaution, chemotherapy, clinical pharmacology, clinical toxicology, pharmaceuticals, therapeutics, hypersensitivity, receptor, therapeutic index, therapeutic use, tocolytic agent, formulary, precaution, pharmacopoeia, sensitivity, allergic reaction, resistance, prophylactic, drug purity, meteria medica</p> <p>g. Differentiate between drugs and medicine</p>	3
2.	Write prescription	<p><u>Prescriptions:</u></p> <ul style="list-style-type: none"> • Definition, importance and parts of prescription • Key points to be considered by prescriber before prescribing. • Principle of appropriate prescribing. • Abbreviation used in prescription e.g. AC, PC, TDS, BID, PRN, SOS, HS, BD etc. 	2
3.	Dispense the drugs	<p><u>Dispensing</u></p> <ul style="list-style-type: none"> • Definition, Importance , Steps • Guidelines of appropriate dispensing 	2

4.	Counsel the patient	Patient counseling <ul style="list-style-type: none"> • Definition, Steps and sites, Technique • Reminding point for patient counselling 	1
5.	Perform the pharmacy practice	<ul style="list-style-type: none"> • Care of medicine and identification of damaged drugs • Quality control and quality assurance • Good manufacturing practice (why, essential needs) • Good pharmacy practice (GPP) (management of physical structure, management of drug, management of technical manpower) 	2
6.	Use drugs	<ul style="list-style-type: none"> • Rational use of drug (introduction, consideration, benefits, problems) • Irrational use of drug (introduction and examples) 	2
7.	Describe drug interactions	<ul style="list-style-type: none"> • Introduction, Types, predisposing factors of drug interaction, Examples 	1
8.	Define labeling, its types and importance	<ul style="list-style-type: none"> • Definition, types, important • Points to be mentioned in libeling 	2
10	Manage inventory.	<ul style="list-style-type: none"> • Definition, objective, Importance, Types, storage guidelines 	1
11	Identify the adverse drug reaction	<ul style="list-style-type: none"> • Definition • Types and classification of adverse drug reaction • Preventive measures of adverse drug reaction • Factor affecting adverse drug reaction 	2
12	Familiarize with the guidelines of prescribing drug	<ul style="list-style-type: none"> • Drug use in children • Drug use in elderly • Drug use in pregnancy and lactation 	2
13	Identify the different routes of drugs administration	Routes: Advantage and disadvantage, procedure and contraindication of : <ul style="list-style-type: none"> • Oral: per oral, sublingual • Parenteral: IV, IM, SC, ID • Inhalation • Topical • Vaginal • Rectal: Suppository, Enema • Equipment, contraindication and procedures of above routes 	2
14	Manage the posology/ calculation of drug dose	<ul style="list-style-type: none"> • Calculation on the basis of age • Calculation on the basis of weight • Calculation based on body surface area 	2
15	Identify the lifesaving drugs	<ul style="list-style-type: none"> • Introduction, Classification 	1
17	Identify the teratogens	<ul style="list-style-type: none"> • Introduction, Classes of teratogens • Guidelines for safe use of drugs during pregnancy 	1
18	Identify the bioavailability	<ul style="list-style-type: none"> • Introduction • Factors affecting in bioavailability 	2

20	Identify the toxicology	<ul style="list-style-type: none"> • Definition • Goals • Action of toxicants 	1
22	Identify the pharmacokinetic	<p><u>Pharmacokinetic</u></p> <ul style="list-style-type: none"> • Definition • Steps:- Absorption, Distribution, Metabolism, Excretion • Factors affecting drug absorption, distribution and metabolism 	1
23	Identify the pharmacodynamics	<p><u>Pharmacodynamics</u></p> <p>Principle of drug action:-</p> <ul style="list-style-type: none"> • Stimulation • Depression • Irritation • Cytotoxic effect • Replacement • Changing immune status • Anti-infective action • Physical/chemical property <p><u>Mechanism of drug action</u></p> <ul style="list-style-type: none"> • Physical action • Chemical action • Enzymatic action • The receptor theory <p>Factors modifying the effect of drug</p> <p>Effective concentration of drug and plasma half life</p>	2
24	<p>Explain the mechanism of action, uses, dose, adverse effects and contraindication of each drugs</p> <p><i>Note: Anti tubercular drugs should be used according to the National Tuberculosis Control Program (NTP, Nepal)</i></p> <p><i>Anti leprotic drugs should be used according to WHO</i></p>	<p><u>Antibiotic, AMAs and chemotherapeutic agents</u></p> <ul style="list-style-type: none"> • Introduction, • Classification of antibiotics • Rules of using AMAs • Factors influencing AMAs therapy (Patient factor, organism factor, drug factor) • Risk of antimicrobial agents <p>a. According to action</p> <ul style="list-style-type: none"> - Bacteriostatic - Bactericidal <p>b. According to spectrum</p> <ul style="list-style-type: none"> - Broad spectrum - Narrow spectrum <p>Penicillin:</p> <ul style="list-style-type: none"> • Ampicilin, Amoxyciline, Cloxacillin, Flucloxacillin, Benzathine penicillin, Phenoxymethyl penicillin, Amoxycillin + Clavulanic acid, Ampicilin + sulbactam <p>Macrolides:</p> <ul style="list-style-type: none"> • Erythromycin, Azithromycin , Clarithromycin <p>Tetracyclines:</p>	8

		<ul style="list-style-type: none"> • Oxytetracycline, Doxycycline <p>Sulfadruugs:</p> <ul style="list-style-type: none"> • Cotrimoxazole <p>Fluroquinolones:</p> <ul style="list-style-type: none"> • Ciprofloxacin, Ofloxacin, Norfloxacin <p>Quinolones:</p> <ul style="list-style-type: none"> • Nalidixic acid, <p>Cephalosporins:</p> <ul style="list-style-type: none"> • Cefadroxil, Cefixim, Ceftriaxone, Cefotaxime, Cefpodoxime <p>Others:</p> <ul style="list-style-type: none"> • Chloramphenicol, clindamycin, Nitrofurantoin, vencomycin, meropenem <p>Aminoglycosides:</p> <ul style="list-style-type: none"> • gentamycin, Amikacin, Kanamycin <p><u>Antiprotozoal:</u></p> <ul style="list-style-type: none"> • Metronidazole, Tinidazole, Diloxanide Furoate <p><u>Antimalarial:</u></p> <ul style="list-style-type: none"> • Quinine, Chloroquine, primaquine, Artemether with lumefantrine, halofantrine, Chemoprophylaxis and Chemotherapy <p><u>Antihelminths:</u></p> <ul style="list-style-type: none"> • Albendazole, Mebendazole, Prziquantel, Niclosamide <p><u>Antifilarial drug</u></p> <ul style="list-style-type: none"> • Diethylcarbamazine <p><u>Antileshminiasis:</u></p> <ul style="list-style-type: none"> • Sodium stibogluconate, Pentamidine <p><u>Antifungal</u></p> <ul style="list-style-type: none"> • Fluconazole, Ketoconazole, Griseofulvin, Nistatin <p><u>Antitubercular:</u></p> <ul style="list-style-type: none"> • INH, Rifampicin, pyrizinamide, Streptomycin, Ethambutol (combined therapy), Ethonamide, Thiacetazone, cyclooserin <p><u>Antileprotic:</u></p> <ul style="list-style-type: none"> • Dapsone, clofazimine, Rifampicine (Combined therapy) 	
25	Explain the mechanism of action, uses, dose, side effects and contraindication of each drugs used in digestive disorders	<p><u>Antacids :</u></p> <ul style="list-style-type: none"> • Aluminium Hydroxide, magnesium trisilicate, milk of magnesia , sodium bicarbonate <p><u>Drugs used in peptic ulcer:</u></p> <ul style="list-style-type: none"> • Ranitidine, Famotidine, Omeprazole, pantoprazole, rabeprazole, sucralfate, bismuth chelate <p><u>Laxative/purgative:</u></p> <ul style="list-style-type: none"> • Bulk laxative: eg Isabgol • Irritant laxative: eg Bisacodyl tab and suppository • lubricant laxative: eg liquid paraffin 	4

		<ul style="list-style-type: none"> • Osmotic laxative: eg Magnesium sulphate, Milk of magnesia ,lactulose <p><u>Drug that affecting intestinal motility</u> Intestinal motility: control and site of drug action</p> <p><u>Antispasmodic:</u></p> <ul style="list-style-type: none"> • Hyoscine, Dicyclomine, mebeverine, Alvirine <p><u>Antidiarrhoeal (nonspecific diarrhea):</u></p> <ul style="list-style-type: none"> • Loperamide, Codeine, Diphenoxylate • Maintenance of fluid and electrolyte balance <p><u>Antiemetic:</u></p> <ul style="list-style-type: none"> • Promethazine, ondansetron, Metoclorpramide, Domperidone, granisetron 	
26	Explain the mechanism of action, uses, dose, adverse drug effects and contraindication of each drugs	<p><u>Bronchodilators</u></p> <ul style="list-style-type: none"> • Aminophylline, Salbutamol (all dosage form), Theophylline + Etophyllin (Deriphylline), Terbutalin, Theophylline, Ephedrine • Drugs used in anaphylactic shock Adrenaline/Epinephrine <p><u>Drugs used in cough:</u></p> <ul style="list-style-type: none"> • Productive cough (Cough expectorant): e.g. Ammonium chloride, Sodium/potassium citrate • Unproductive cough (Antitussive: e.g Codeine (for adult), Dextromethorphan (for child) 	3
27	Explain the mechanism of action, uses, dose, adverse effects, contraindication and precaution of each drugs	<p><u>Diuretic</u></p> <ul style="list-style-type: none"> • What is electrolytes • Functions of electrolytes in our body • Source of electrolytes • Classification of diuretic drugs <p>Frusemide, Hydrochlorthiazide, mannitol, sprionolactone</p> <p><u>Antihypertensive</u></p> <ul style="list-style-type: none"> • Factors involve in control of blood pressure • Classification and precaution of antihypertensive drug • Choice of initial and subsequent drugs • Principle of treatment • Ascertain of HTN • Goal of therapy <p>Amlodipine, Enalapril, Methyldopa, Nifedepine, Atenolol, Prazosin, Losartan</p>	4
28	Explain the mechanism of action, uses, dose, adverse effects and contraindication	<p><u>NSAIDs</u></p> <ul style="list-style-type: none"> • Major clinical actions of NSAIDs • Clinical effects of NSAIDs • Classes of NSAIDs and comparison of their main action <p>Paracetamol, Ibuprofen, Diclofenac, Indomethacin,</p>	3

	of each drugs	<p>Naproxin, Aceclofenac, Mefenamic acid, Nimesulide, Ketorolac, piroxicam, Aspirin</p> <p><u>Opid Analgesic</u></p> <ul style="list-style-type: none"> • Introduction and classification • Clinical notes <p>Morphine, Codeine, Pethidine, Tramadol, Fentanlyl, Pentazocine</p> <ul style="list-style-type: none"> • Addiction, habituation • Cause of opioid poisoning • Signs and symptoms of opioid poisoning or overdose • Treatment of opioid poisoning • Narcotic management, • Objectives of narcotic management, • Prevention of addiction or habituation of narcotic drugs, 	
29	Explain the mechanism of action, uses, dose, adverse drug reactions/ side effects, precautions and contraindication of each drugs	<p><u>Psychopharmacology</u></p> <p>There are various neurotransmitters</p> <ul style="list-style-type: none"> • Central neurotransmitters (GABA, Dopamine, etc.) • Neurhumoral transmission in CNS • Function of brain • Treatment modalities in psychiatry • Paramedic patient relationship (Therapeutic relationship, therapeutic communication techniques, counselling) <p><u>Anxiolytic drugs</u></p> <ul style="list-style-type: none"> • Busiprone, Hydroxyzine, Chlordiazepoxide, Diazepam, lorazepam, midazolam, alprazolam, <p><u>Antiepileptic drug</u></p> <ul style="list-style-type: none"> • Phecytoin, phenobarbitone, carbamazepine, gabapentin, lamotrigine, valporic acid <p><u>Anti-depressants drugs</u></p> <ul style="list-style-type: none"> • Amitryptiline, imipramine, fluoxetine, Sertraline, Trazodone, Isocarboxadiz <p><u>Antipsychotic drugs</u></p> <ul style="list-style-type: none"> • Chloropromazine, haloperidol, clozapine, Triflurpromazine, Risperidone • Substance use disorder (drug dependence, classification of commonly abused drugs, complications of drug dependence) • Concept of drug misuse (drug misuse, drug dependence, drug tolerance, withdrawal, inhalants or volatile solvents) • Legal aspects of drug misuse • Narcotic drug act of Nepal • National rules of narcotic management 	7
30	Define the mechanism of action, uses,	<p><u>Hormonal drugs</u></p> <p>Introduction of hormones and hormonal drug</p> <p>-Different between hormones and neurotransmitters</p>	4

	dose, adverse drug reactions/ side effects and contraindication and precaution of each drugs	<p><u>Antidiabetic drugs</u> Effects of insulin in fuel homeostasis</p> <ul style="list-style-type: none"> • Type I diabetic (e.g. Insulin) • Type II diabetics (hypoglycaemic drugs) <p><u>Drug used in uterus</u></p> <ul style="list-style-type: none"> • Ergometrine Oxytocin, Methyle ergometrine <p><u>Drug used in thyroid</u></p> <ul style="list-style-type: none"> • Drugs used in hypo-Thyroidism (e.g Thyroxine) and hyper thyroidism (e.g Carbimazole) <p><u>Corticosteroids:</u></p> <ul style="list-style-type: none"> • major effects of corticosteroids, corticosteroids used therapeutically, conditons in which corticosteroids are used for anti-inflammatory and immunosuptessive effects, effect of prolonge corticosteroid use: e.g Betamethasone, Dexamethasone, Prednisolone, Hydrocortisone <p><u>Family planning:</u> oral contraceptive pill, norplant, Depomedroxy progestrone acetate, emergency contraceptives</p>	
31	Identify vaccine and sera, define terms and indication, dose , side effect and contrindication	<p><u>Vaccine:</u></p> <ul style="list-style-type: none"> • Definition • Immunity & its type • Immunization • Immunoglobulins & its types • Antisera • Different between vaccine and sera <p>BCG, DPT(Diphtheria, pertussis, Tetanus, Hepatitis B and Haemophilus influenza type b) Tetanus toxoid, Measles and Rubella, Polio, Hepatitis B vaccine , Hib vaccine , Chicken pox, pneumonia, Typhoid, Japanese encephalitis, MMR</p> <p><u>Sera</u> Anti Rabies Vaccine, Anti Snake venom</p> <p><u>Cold chain</u></p> <p><u>Immunoglobulin:</u></p> <ul style="list-style-type: none"> • Tetanus immunoglobulin, Rabis immunoglobulin, Hepatitis-B immunoglobulin 	2
32	Define the mechanism of action, use, dose and adverse effect	<p><u>Antidotes:</u></p> <ul style="list-style-type: none"> • Activated charcoal • Atropine 	1
33	Identify drugs for electrolyte imbalance	<p>IV fluids and their electrolytes content Fluid and electrolyte balance Correction of fluid balance Body fluid compartments</p> <ul style="list-style-type: none"> • Oral rehydration salt (ORS) • Normal saline • Dextrose 5%, 10%, 25%, 50% • Ringer lactate, 	1

		<ul style="list-style-type: none"> • Dextrose normal saline (DNS) • Infusion rate 	
34	Define the mechanism of action, uses, dose, adverse effects, precaution and contraindication and precaution of each drugs	<ul style="list-style-type: none"> • Pharmacological effects of histamine • Mechanism of action • Highly sedative: Promethazine • Moderately sedative: Pheniramine • Mild sedative: Chlor-pheniramine, cyproheptadine • Newer: Cetirizine, Fexophenadine 	1
35	Identify the locally used chemicals Actions Use Dose Preparation Side effects Contraindications	<p><u>Some general used drugs: eye/ear/throat/nose/skin:</u></p> <ul style="list-style-type: none"> • Povidone Iodine, Gention violet, potassium permanganate, savlon aqueous, Methylated spirit, Benzyl Benzoate, Gamma Benzene Hexa-chloride, Whit filed's ointment, Vaseline, glycerine, zinc oxide, Calamine, lignocaine jelly, diclofenac gel, gentamycin, tetracycline, chloramphenicol, ciprofloxacin, soframycin, acyclovir, dexamethasone, hydrocortisone, miconazole, ketoconazole, oxymethazoline, xylomethazoline, silver sulphadiazine 	2
36	Identify vitamins and minerals Sources Indications Side effects Dose Daily requirement Contraindications	<p><u>Vitamins:</u></p> <ul style="list-style-type: none"> • Water soluble: Vit.B1, Vit.B2, Vit.B3, Vit.B6, Vit.B12, Ascorbic acid • Fat soluble: Vitamin A, Vitamin D, Vitamin K, Vitamin E <p><u>Minerals</u></p> <ul style="list-style-type: none"> • Iron, calcium, ferrous sulfate, iodine, folic acid, 	2
37	Identify the anesthetic drugs; use, dose, side-effects, contraindication and precaution	<ul style="list-style-type: none"> • General anesthetic: introduction and example only • Local anesthetic: lidocaine, lidocaine + adrenaline 	1
38	Identify, classification and adverse effects of drugs	<ul style="list-style-type: none"> • Anticancer drugs • Antigout drugs • Lipid lowering drugs • Anti-arrhythmic drugs • Anti-anginal drug • Cardiac-glycosides • Anti-viral • Anti platelet • Anti-coagulant and antagonist 	1
39	List the conceptual concept for CMA students	<p><u>Essential Drugs</u></p> <ul style="list-style-type: none"> • Concept of essential drug • Benefits of essential drugs • List of essential drugs for national, district, PHC, 	1

		health post and sub health post. <ul style="list-style-type: none"> • Concept of standard treatment guidelines/ Treatment protocols (STGs) 	
40	Identify patient compliance	<ul style="list-style-type: none"> • Introduction • Types of compliance and noncompliance • Factors affecting compliance and noncompliance • Consequences of noncompliance 	1
			78

Second Year

Suggested Master Plan for Second Year

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STUDY BLOCK					SKILL LAB PRACTICE			DASHAIN, TIHAR VACATION				STUDY BLOCK				SKILL LAB PRACTICE			
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
WINTER VACATION				Hospital Clinical Practice								STUDY BLOCK		Janaswasthya/MCH/FP					
39	40	41	42	43	44	45	46	47	48	49	50	51		52					
Laboratory		Community Field Practice			STUDY BLOCK		SKILL LAB PRACTICE		SUMMER VACATION		REVISION CLASS		FINAL EXAM						

Note: The individual technical schools can manage their vacation plan according to their climatic situation.

ON THE JOB TRAINING

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Health Post/PHC/General hospital																			

Subject Title: Health Management & Environmental Sanitation

A. Health Management

Course Description: This course will provide knowledge and skill in health management field which can be applied to manage Health Post/sub health post/primary health care center and community. During training period student will have opportunities of observation visit to observe existing health management system as well as activities in real situation of HP/SHP/PHC and DHO.

Total Hours: Theory 57

Practical: 135 hrs

S. N.	Tasks/Objectives	Contents	T
1.	Identify the management in health organization	Management: <ul style="list-style-type: none"> • Definition • Principle • Function <u>(PODSCRBE)</u> P-Planning O-Organizing D-Directing S-Supervising C-Controlling/monitoring R-Record keeping B-Budgeting E-Evaluating or <u>POLE</u> P-Planning O-Organizing L-Leading E-Evaluation	5
2.	Identify the PHC situation in Nepal	<u>P.H.C.</u> Definition Elements Principle Primary health care system in Nepal Current programme in Nepal(Goal)	2
3.	Identify health care system in Nepal	<u>Health care system</u> Introduction, Concept Health care system: <ul style="list-style-type: none"> • Ayurvedic • Homeopathic • Allopathic Level of health care: <ul style="list-style-type: none"> • Primary • Secondary • Tertiary Functions of different health care settings	4
4.	Identify health organization in	1. Definition	5

	Nepal	<ul style="list-style-type: none"> • organization • organogram <p>2. Introduction, function & structure of Health organization in Nepal: MOHP, DOHS, Central, Regional, Zonal, DHO, DPHO, PHC. , HP, SHP</p> <p>3. Professional Councils</p> <ul style="list-style-type: none"> • Definition • Types • Importance 	
5.	Familiarize with staffing pattern	<p>Staffing:</p> <ul style="list-style-type: none"> • Definition • Importance • Pattern <ul style="list-style-type: none"> ➤ PHC ➤ HP ➤ SHP <p>Recruitment</p> <ul style="list-style-type: none"> • Introduction • Types <ul style="list-style-type: none"> ➤ Internal ➤ External 	3
6.	Familiarize with the job description of health worker	<p>Job description</p> <ul style="list-style-type: none"> • Introduction • Types • Importance • function <p>Job description of health worker</p> <ul style="list-style-type: none"> • Doctor • HA • Nurse • AHW/SAHW • ANM • Other health workers 	5
7.	Identify the system of recording/reporting	<p>Record</p> <ul style="list-style-type: none"> • Definition • Importance • Deferent type of record forms used in health post • Type of record <ul style="list-style-type: none"> - Clinical - Administrative • Analysis of the records • Utilization of the records <p>Report & Reporting</p> <ul style="list-style-type: none"> • Definition • Importance • Types <ul style="list-style-type: none"> - oral 	4

		- written • Reporting time schedule	
8.	Identify health information system (HIS)	HMIS, HuRDISH, LMIS, FMIS • Introduction Importance and process of HMIS	2
9.	Perform administrative work	Administrative work • Introduction • Importance • Types • Function - Registration - Dispatch - Filing	2
10.	Define planning, steps and importance of health planning in Nepal.	<u>PLANNING</u> • Definition • Steps of planning • Importance of planning • Health planning in Nepal	1
11.	Identify/conduct training. Select participants for training	TRAINING • Meaning • Importance • Types - Pre service - In-service - Short term - Long term - Refresher Meaning of training need Criteria for trainees selection Criteria for need identification • Data collection * Interview * Questionnaire * Observation • Data analysis • Problem identification • Need prioritization • Need selection	4
12.	Conduct meeting	Meeting • Definition • Importance • Agenda • Step of meeting Minute • Definition • Importance	2
13.	Develop leadership	Leadership • Definition • Types	1

		<ul style="list-style-type: none"> • Qualities 	
14.	Define supervision and prepare supervision plan	<ol style="list-style-type: none"> 1. Definition 2. Importance 3. Tools <ul style="list-style-type: none"> • Manual • Personal file • Checklist <ul style="list-style-type: none"> - Definition - Type - Preparation 4. Prepare supervision plan 	2
15.	Define coordination	Coordination <ul style="list-style-type: none"> • Definition • Types • Importance 	1
16.	Solve the problems	PROBLEMS SOLVING <ul style="list-style-type: none"> • Definition of problems • Identification of problem • Step of problems solving – Rechar’s Method 	2
17.	Write official letters and communicate	<ul style="list-style-type: none"> • Type of letter <ul style="list-style-type: none"> - official - personal • Format of official letter <ul style="list-style-type: none"> - Heading - Greeting - Body of the letter - Closing - Salutation • Characteristic of good letter <ul style="list-style-type: none"> - respectful - concise - clarity - simplicity • Communication process 	3
18.	Prepare different type of statistical charts	Definition and types of: <ul style="list-style-type: none"> • Tabulation • Bar Diagram • Pie Chart 	2
19.	Identify different type of leave	Definition of leave Type of leave <ul style="list-style-type: none"> • Casual leave • Festival leave • Sick leave • Annual leave • Maternity leave • Education leave • Special leave • Others..... 	3
20.	Manage Inventory	Inventory	4

		<ul style="list-style-type: none"> • Definition • standard and quality • Replacement • Management • Type of goods <ul style="list-style-type: none"> - Consumable - non-consumable 	
			57

Practical Task

- 1. Visit and monitor Health sector if the organization is managed or not.**
- 2. Develop work plan**
- 3. Draw and recognize the organogram of Nepals health sector.**
- 4. Recognize the staffing pattern and their job description in PHC, HP & SHP.**
- 5. Write leave letters.**
- 6. Identify training need & select health worker for training.**
- 7. Write letters with proper format.**
- 8. Conduct meeting and write minutiing.**
- 9. Fill the different HMIS form using in health sectors.**
- 10. Develop chart.**
- 11. Prepare Budget in Health sector.**
- 12. Solve problems in Richard's method.**
- 13. Perform administrative work.**
- 14. Select proper recording technique and reporting.**
- 15. Manage inventory in well manner.**

B. Environmental Sanitation

COURSE DESCRIPTION:

This course will help the student to increase skill and knowledge needed to provide environmental sanitation services through community based programme and primary health care services during community field visit and home visit. In addition student will also develop skills to help people for better utilization of the locally available health facilities for the effective services.

Total Hours: Theory: 60 hrs

Practical: 138 hrs

S.N.	Tasks/objectives	Contents	T
1	Describe the types, importance and scope of environmental sanitation	Environment <ul style="list-style-type: none"> • Definition • Types <ul style="list-style-type: none"> - Physical - Biological - Social • Sanitation • Environmental Sanitation <ul style="list-style-type: none"> - Importance - Scope 	3
2	Describe the importance, requirement, uses and sources of water. Prevent water from pollution Describe the methods of water purification	Water <ul style="list-style-type: none"> • Definition • Importance • Requirement • Uses • Sources Water pollution <ul style="list-style-type: none"> • Definition • Sources • Prevention of water pollution Water borne diseases <ul style="list-style-type: none"> • Definition • Types • Prevention Household purification of water <ul style="list-style-type: none"> - Boiling - Chemical - Filtration Disinfections of well and well water	8
3	Explain the human excreta and its proper disposal/sanitation practices	Human Excreta <ol style="list-style-type: none"> 1. Introduction 2. Definition 3. Excreta disposal practice in Nepal <ul style="list-style-type: none"> - In rural area - In urban area 	4

		<p>4. Social aspect of excreta disposal</p> <p>5. Excreta disposal & health</p> <ul style="list-style-type: none"> - Transmission of faecal borne diseases - Faecal borne diseases - Hazards of improper excreta disposal - Sanitation Barrier <p>6. Method of excreta disposal</p> <ul style="list-style-type: none"> - Simple pit latrine - Water sealed latrine - Septic tank - Bore hole 	
4	<p>Identify Solid Waste, its effects on health & environment</p> <p>Perform termination of solid waste</p>	<p>Solid Waste</p> <ul style="list-style-type: none"> - Introduction - Definition - Source - Classification <p>Refuse</p> <ul style="list-style-type: none"> - Definition - Types - Sources <p>Garbage</p> <ul style="list-style-type: none"> - Definition - Types - Sources <p>Health and environmental consequence of solid waste</p> <ul style="list-style-type: none"> - Effect on health - Effect in environment <p>Method of termination</p> <ul style="list-style-type: none"> - Dumping - Sanitary land - Incineration - Composting - Manure pit - Burial 	10
5	Identify the sources of liquid waste and ways of proper disposal	<p>Liquid waste</p> <p>1. Meaning</p> <p>2. Sources</p> <ul style="list-style-type: none"> - Domestic sources - Industrial sources - City sources <p>3. Way of liquid waste disposal</p> <ul style="list-style-type: none"> - Irrigation - Cesspool method - Soakage/soak pit - Sewerage 	4
6	Identify the housing condition	<p>1. Definition of housing</p> <p>2. Criteria for healthful housing</p> <p>3. Standard of housing</p> <p>4. Housing and health</p>	3

		<p>VENTILATION</p> <ol style="list-style-type: none"> 1. Definition of ventilation 2. Type of ventilation <ul style="list-style-type: none"> - Natural - Artificial 	
7	<p>Describe food hygiene and its importance.</p> <p>Identify the ways of food contamination.</p> <p>Describe food fortification, additives and preservation.</p> <p>Identify the food borne disease</p>	<ol style="list-style-type: none"> 1. Introduction of food hygiene 2. Definition of food hygiene 3. Importance of food hygiene 4. Way of food contamination <ul style="list-style-type: none"> - environmental pollution - unhygienic practices - food adulteration 5. Sanitation of eating place 6. Introduction to <ul style="list-style-type: none"> - Food fortification - Food additives - Food preservation 7. Food borne disease <ul style="list-style-type: none"> - Food borne intoxication - Food borne infection 	7
8	Describe milk hygiene, source of milk contamination, milk sanitation and milk borne disease.	<p>Milk Hygiene</p> <ol style="list-style-type: none"> 1. Definition 2. Source of milk contamination 3. Milk borne diseases 4. Milk sanitation 5. Pasteurization of milk <ul style="list-style-type: none"> - Method of pasteurization 	3
9	Define meat hygiene, its causes and prevention and control	<p>Meat Hygiene</p> <p>Introduction</p> <p>Causes of poor meat hygiene</p> <p>Related diseases</p> <p>Prevention and control measures</p> <p>Slaughter House</p>	2
10	Identify the arthropods and rodent control measure	<ol style="list-style-type: none"> 1. Introduction to louse arthropods <ul style="list-style-type: none"> - Mosquito - Flies - Flea - Mite - Rodent 2. Arthropod borne disease <ul style="list-style-type: none"> - Transmission of arthropod borne disease - Principle of arthropod control - Insecticides 3. Type of rodents <ul style="list-style-type: none"> - Domestic - Wild 4. Rodents and disease 5. Anti-rodents measure 	5
11	Identify the concept of some	Definition and concept of	5

	environmental hazards	<ol style="list-style-type: none"> 1. Ecological imbalance 2. Greenhouse effect 3. Ozone layer depletion 4. Radiological hazards 5. Occupational hazards <ul style="list-style-type: none"> - Physical hazards - Chemical hazards - Biological hazards - Mechanical hazards - Psychological hazards 6. Occupational diseases <ul style="list-style-type: none"> Disease due to <ol style="list-style-type: none"> i Physical agent ii Biological agent iii Chemical agent 7. Preventive Measures of occupational health hazards 	
12	Describe the sources, effects and prevention of noise pollution.	Noise Pollution Definition Sources Effect on health Prevention and control measures	2
13	Describe the sources, effects and prevention of air pollution.	Air Pollution Definition Sources Prevention and control measures	2
14	Manage bio-medical waste	Bio-Medical waste <ul style="list-style-type: none"> - Definition - Sources - Health hazards - Treatment & disposal technique 	2
			60

Practical task

1. Identify proper water purification methods.
2. Identify and manage excreta disposal.
3. Identify and manage solid waste management.
4. Identify and manage liquid waste management.
5. Identify housing condition.
6. Manage food hygiene.
7. Manage milk hygiene.
8. Control the ways of arthropods and rodent.
9. Identify environmental hazards and their management.
10. Perform personal hygiene.

Subject Title: Maternal Child Health (MCH)/Family Planning/Nutrition

Course Description: This course will provide the students basic concept and the skill needed to provide preventive, primitive as well as curative service to the mother & child to ensure optimal health through the various activities in the MCH clinic.

Total Hours: Theory: 117

Practical: 195

S.N.	Tasks/Objectives	contents	T
1	Define MCH/ANC	Introduction- <ul style="list-style-type: none"> ▪ Definition ▪ Objectives ▪ Importance ▪ Function ▪ Need of MCH service in the community 	4
2	Define pregnancy Perform pregnancy test	Introduction- <ul style="list-style-type: none"> ▪ Definition of pregnancy ▪ Physical change according to systems ▪ Signs & symptoms of pregnancy ▪ History taking (personal, past-present and gyne/obst.) ▪ Physical examination (Head to toe) ▪ Calculate the LMP EDD & weeks of gestation 	7
3	Identify minor disorders of pregnancy Provide health education for pregnant women	Introduction- Definition, causes and management of the minor disorders; <ul style="list-style-type: none"> ▪ Morning sickness ▪ nausea /vomiting ▪ backache ▪ Heart burn ▪ muscles cramps Health education on; <ul style="list-style-type: none"> ▪ Personal hygiene ▪ Nutrition (Diet) ▪ Rest & Exercise ▪ Use of medicine ▪ Family planning 	8
4	Identify complication of pregnancy and its management	Introduction- Abortion, ectopic pregnancy, toxemia, mal presentation APH, Placenta Previa; <ul style="list-style-type: none"> ▪ Definition ▪ Causes ▪ S/S ▪ Diagnosis ▪ Treatment ▪ Management ▪ Health education 	7

5	Define delivery/labour	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition of normal labour ▪ Stages of labour (1st, 2nd, 3rd and 4th) ▪ Sign/symptoms and management of labour (1st, 2nd, 3rd & 4th) ▪ Different between true and false labour ▪ APGAR scoring 	8
6	Perform abnormal delivery	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition ▪ Types of abnormal delivery ▪ Diagnosis ▪ Management and referral 	4
7	Manage complication of delivery	<p>Introduction-</p> <ul style="list-style-type: none"> • List the complication such as PPH (primary/secondary), retained placenta, retention of urine, puerperal sepsis; ▪ Definition ▪ Etiology ▪ S/S ▪ Diagnosis ▪ Treatment & management ▪ Referral 	6
8	Provide postnatal care to mother	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition terms (Normal lochia, involution of uterus) ▪ Definition of postnatal care ▪ Purpose ▪ Care of postnatal of mother ▪ Health education on <ul style="list-style-type: none"> ➤ Postnatal exercise ➤ care of new born (cord care, eye care, skin care,) ➤ Nutrition ➤ Breast feeding ➤ immunization 	4
9	Provide care of new born baby	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition ▪ Purpose of new born baby care ▪ Immediate care of new born (skin care, eye care, cord care) ▪ Follow up new born care (3 days, 7 days, 28 days) ▪ Successful breast feeding ▪ Expressing breast feeding ▪ New born problem/danger sign <ul style="list-style-type: none"> ○ Hypothermia ○ Asphyxia ○ Low birth weight ▪ Minor disorder of new born and management <ul style="list-style-type: none"> ○ Sore buttock 	8

		<ul style="list-style-type: none"> ○ Skin rashes ○ Physiological jaundice ○ Oral thrust ○ Gynaecomastia ○ Vomiting <p>New born resuscitation in home or health center.</p>	
10	Identify the postnatal disorders	<p>Postnatal disorders such as; after pain, constipation, crack nipple, engorged breast;</p> <ul style="list-style-type: none"> ▪ Definition ▪ Etiology ▪ S/S ▪ Diagnosis ▪ Management 	6
11	Manage common gynecological problem	<p>Introduction-</p> <ul style="list-style-type: none"> - List the common gynecological problem such as; PID, uterus prolapsed, leucorrhea, Candidiasis and UTI; ▪ Definition ▪ Etiology ▪ Sign & symptoms ▪ Diagnosis ▪ Management ▪ Referral 	6
12	Identify the normal growth development under 5 years child	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition ▪ Determinant of growth and development ▪ Growth and development of children according to age <ul style="list-style-type: none"> ➤ weight ➤ height ➤ head & chest circumference ➤ MUAC ▪ Development of milestone ▪ Importance of road to health chart ▪ Use of growth chart 	5
13	Identify common disease in childhood and manage such disease	<p>Introduction</p> <ul style="list-style-type: none"> - The common disease such as; ARI, Diarrhea, meningitis, six killer diseases (TB, Tetanus, Polio, Pertusis, Diphtheria, Measles); ▪ Definition ▪ Etiology ▪ Sign & symptoms ▪ Diagnosis ▪ Management ▪ prevention of six killer disease (immunization) ▪ Immunization schedule 	6

14	Describe the handicap children	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition of handicap ▪ Types ▪ Causes ▪ Prevention ▪ Rehabilitation 	2
15	Describe feeding & extra supplementary food	<p>Introduction -</p> <ul style="list-style-type: none"> ▪ Definition <ul style="list-style-type: none"> ➤ breast feeding ➤ weaning ➤ Supplementary food ▪ Importance of breast feeding ▪ Disadvantage of bottle feeding ▪ Importance of weaning ▪ locally available weaning food <ul style="list-style-type: none"> ➤ Method of preparation of sarbottom pitho ▪ Method of preparation of jeevan jal 	4
16	Describe nutrition and health	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Definition ▪ Importance of nutrition ▪ Types of nutrient and their sources <ul style="list-style-type: none"> ➤ Protein ➤ Fat ➤ Carbohydrate ➤ Mineral ➤ Vitamins ▪ Main function of nutrients ▪ Nutrient sources of locally available food 	4
17	Explain about nutritional requirement	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Recommended daily intake for energy <ul style="list-style-type: none"> ➤ Infancy ➤ Children ➤ Adult male ➤ Adult female ➤ Pregnancy mother ➤ Lactation mother ▪ Importance of balance diet 	4
18	Provide nutritional education	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Importance ▪ Precipitating factors of under nutrition in community <ul style="list-style-type: none"> ➤ Food taboos belief & practice 	2
19	Familiarize with agriculture, specially kitchen garden.	<p>Introduction-</p> <ul style="list-style-type: none"> ▪ Kitchen garden <ul style="list-style-type: none"> ➤ Definition ➤ Purpose ➤ Advantage 	2

20	Perform counseling	Introduction - <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Process of counseling (ask, tell, help, explain, write, follow up) 	2
21	Define family planning, its types and importance	Introduction- <ul style="list-style-type: none"> ▪ Definition ▪ Purpose/importance ▪ Types ▪ Temporary method of FP (Definition, purpose, indication , side effect, contraindication, advantage, disadvantage and health education); <ul style="list-style-type: none"> ➤ Condom ➤ Oral Pills ➤ Foam tab ➤ Spermicidal ➤ IUD ➤ Norplant ➤ Depo-Provera ➤ Calendar method ➤ Natural method (Lactation Amenorrhea, Safe period method, Withdrawal method, Basal body method, temperature method and Cervical mucosa method) ▪ Permanent methods of FP (Definition, purpose, indication, side effect, contraindication, advantage and disadvantage and health education/follow up visit); <ul style="list-style-type: none"> ➤ Male sterilization (Vasectomy) ➤ Female sterilization (Laparoscopy & Minilap) 	12
22	Manage emergency contraceptive	Introduction- <ul style="list-style-type: none"> • Types • Dose and timing • Effectiveness, precaution • Client information • Management of complications 	2
23	Manage PAC/CAC	Introduction- <ul style="list-style-type: none"> ▪ Define ▪ Indication ▪ Management ▪ Complication 	2
24	Sub-fertility	Introduction- <ul style="list-style-type: none"> ▪ Definition ▪ Causes ▪ Prevention ▪ Counseling ▪ Management (male and female) 	2
			117

Subject Title: Basic Laboratory

Course Description: This course will provide the students with knowledge & skills to identify the various Micro-organism present in human system, through the Microscopic examination, which helps to diagnose & treatment in health care setting.

Total Hours: Theory 78

Practical: 78

S. N	Tasks	Related technical Knowledge	T
1	Define lab, its importance and precaution.	Definition, importance, precaution to be taken in lab.	4
2	Define immunization and its classifications. List immunization against six killer diseases.	Define: Microbiology immune/immunity/immunization Classification of immunity Antigen antibody reaction List immunization against six killer diseases (EPI)	8
3	Familiarize with microscope and handle properly.	<ul style="list-style-type: none"> Name of different part of microscope Types of microscope Technique of handling microscope Use of microscope & result reporting. Advantage of microscope. 	6
4	Perform blood sample collection and blood count.	<ul style="list-style-type: none"> Blood sample collection Total count, Differential count and their relation to disease condition. 	6
5	Define microorganism, its classification and structure.	Classification (pathogenic + nonpathogenic) <ul style="list-style-type: none"> Bacteria, virus, Parasites, fungus. 2. Structure of microorganisms.	6
6	Define Parasites, its classification and structure.	Definition of parasite Classification Structure of parasite Ova, larva, cyst a protozoa is helminthes.	6
7	Take blood sample by pricking finger.	Finger pricking Definition process Indication Uses.	2
8	Identify the smear (thick & thin).	<ul style="list-style-type: none"> Definition of thick/thin smear Uses/advantages/condition for thick/thin smear 	3
9	Define sputum smear, AFB and AFB test. Collect sputum for AFB test.	<ul style="list-style-type: none"> Meaning of smear Meaning of AFB. Meaning of AFB test Collection of sputum Meaning of ziehl Neelsen stain and uses. 	5
11	Identify the normal hemoglobin level.	<ul style="list-style-type: none"> Normal hemoglobin label.(Male, Female) 	2
12	Collect urine sample and conduct pregnancy test.	<ul style="list-style-type: none"> Urine sample collection Routine test/ pregnancy test 	4

13	Collect urine for sugar and test.	<ul style="list-style-type: none"> • Importance of urine test for sugar. • Condition presenting sugar in urine. 	4
14	Identify the normal label of urine for albumin (protein).	<ul style="list-style-type: none"> • Normal albumin label in urine. • Normal protein label in urine. • Review the condition presenting albumin in the urine. 	4
15	Collect stool sample for test, conduct stool test and identify the ova, cysts, larva, parasite etc.	<p>Stool sample collection</p> <p>Geographical distribution of parasite & life cycle of:</p> <p>Protozoa, amoeba, giardia</p> <p>Helminthes</p> <ul style="list-style-type: none"> • Round worm • Hook worm • Pin worm • Tape worm • Thread worm • Malaria • Filaria • Kalazar <p>Morphology of ova cyst in different protozoa helminthes</p> <ul style="list-style-type: none"> • Round worm ovum • Hook worm ovum • Thread worm ovum • Whip worm ovum • Cyst of e, histolytic Cyst of C. coli • Cyst of giardia 	18
			78

Subject Title: Basic Medical Procedure

Course Description: This course will expose the student to provide the basic medical care for individual and family in the health posts/community and in the hospital settings.

Total Hours: Theory 78

Practical: 234

S. N.	Tasks/Objectives	Contents	T
1	Define Basic Medical Procedure	<ul style="list-style-type: none"> • Introduction • Importance 	2
2	Perform infection prevention	<ul style="list-style-type: none"> • Definition • Precaution • Importance • Techniques 	2
3	Sterilize the equipment	<ul style="list-style-type: none"> • Definition • Importance • Types • Methods of sterilization • Indications 	4
4	Take Temperature	<ul style="list-style-type: none"> • Definition of temperature and thermometer • Normal body temperature • Types of temperature • Required materials • Procedures of taking temperature • Convert centigrade to fahrenheit. • Factors affecting for temperature. • Possible result of excessive temperature • Recording reading in decimals. • Condition for taking oral, axillary, groin and rectal temperature. 	6
5	Take pulse rate	Pulse <ul style="list-style-type: none"> • Definition • Method of taking pulse • Sites to take pulse • Normal pulse rate according to age. • Relation of pulse to temperature/respiration. • Condition causing variation 	5
6	Take Respiration	<ul style="list-style-type: none"> • Definition • Method of counting respiration • Normal respiration rate • Types of respiration • Relation of respiration to pulse & temperature 	4

		<ul style="list-style-type: none"> • Condition causing variation. 	
7	Take blood pressure	<ul style="list-style-type: none"> • Introduction • Definition • Required materials • Method of taking B.P. • Normal blood pressure in different age group • Condition causing variation. 	6
8	Perform Nebulization	<ul style="list-style-type: none"> • Introduction • Indication • Required materials • Procedures 	4
9	Perform the dressing in sterilized technique	<ul style="list-style-type: none"> • Definition • Dressing • Importance • Principles • Types • Indication • Required materials • Procedure 	5
10	Carry out bandage	<ul style="list-style-type: none"> • Definition of bandage • Types of bandage • Required materials • Importance of bandage • Indication of bandage • Procedures 	6
11	Carry out Splint	<ul style="list-style-type: none"> • Definition of splint • Types of splint • Required materials • Importance of splint • Indication of splint • Procedure 	6
12	Dispose dirty dressing bandage & Splint.	<ul style="list-style-type: none"> • Process of removing. • Methods of disposing. 	2
13	Perform injection	<ul style="list-style-type: none"> • Definition of injection • Methods of giving injection • Route of injection • Importance of injection. • Sites of giving injection • Possible complication of injection 	7
14	Perform IV cannulation	<ul style="list-style-type: none"> • Required materials • Methods of giving IV cannulation • Sites of giving IV cannulation • Precaution 	5
15	Perform Suturing	<ul style="list-style-type: none"> • Definition of suturing • Indication 	6

		<ul style="list-style-type: none"> • Importance • Types of suturing • Process of suturing • Removal of suturing 	
16	Perform Catheterization	<ul style="list-style-type: none"> • Definition • Type • Indication • Contraindication • Material of catheterization • Procedure • Care of catheter • Referring case 	3
17	Perform NG (Ryles) tube insertion	<ul style="list-style-type: none"> • Introduction • Indication • Materials requirement • Procedure • Referring condition 	3
18	Perform Enema	<ul style="list-style-type: none"> • Introduction • Objective • Indication • Types • Materials requirement • Procedure • Referring condition 	2
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Subject Title: Basic Surgery & First Aid

Course Description: This course will provide students about basic knowledge of first aid and be able to solve any emergency problems by using their knowledge and practice. So an additional course of basic surgery, appropriate care to individual, families and communities to improve the optimum level of health will be provided.

Total Hours: Theory 117

Practical: 273

Basic Surgery

S.N.	Contents	Related Technical Knowledge	T
1	Define basic surgery	<ul style="list-style-type: none"> • Definition • Importance 	2
2	Define terminologies used in surgery	Definition of:- <ul style="list-style-type: none"> • Infection • Sepsis • Asepsis • Antiseptic • Aseptic Technique • Disinfections • Disinfectant 	3
3	Diagnosis and manage inflammation	Inflammation <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Treatment • Complication 	2
4	Perform diagnosis and management of wound	Wound <ul style="list-style-type: none"> • Definition • Cause • Types • Sign & symptoms • Management • Complication 	4
5	Perform diagnosis and management of Boil/Abscess/ Carbuncle/ Cellulites/Gangrene.	Definition, Cause, Clinical feature and management of <ul style="list-style-type: none"> • Boil/ Abscess/ Carbuncle/ Cellulites/gangrene Methods of incision and drainage	5
6	Perform treatment and management of otitis media	Otitis media <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Treatment • Complication • Prevention 	1
7	Perform treatment and manage otitis externa	Otitis externa <ul style="list-style-type: none"> • Definition 	1

		<ul style="list-style-type: none"> • Sign/Symptoms • Treatment 	
8	Identify and manage gum bleeding	Gum Bleeding <ul style="list-style-type: none"> • Definition • Cause • Clinical Feature • Treatment 	1
9	Diagnose and manage gingivitis	Gingivitis <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Management 	1
10	Perform treatment and management of toothache	Toothache <ul style="list-style-type: none"> • Definition • Cause • Clinical features • Management 	1
11	Perform diagnosis and management of dental carries	Dental Carries <ul style="list-style-type: none"> • Definition or introduction • Cause • Sign/Symptoms • Treatment • Prevention • Complication 	1
12	Identify and manage dental calculus	Dental Calculus <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Prevention • Management • Complication 	1
13	Identify and manage dental plaque	Dental Plaque <ul style="list-style-type: none"> • Definition • Sign/Symptoms • Prevention • Management 	1
14	Perform treatment and management of styne	Styne <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Treatment • Complication 	1
15	Perform treatment and management of conjunctivitis	Conjunctivitis <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Diagnosis • Treatment 	2

		<ul style="list-style-type: none"> • Complications • Prevention 	
16	Perform diagnosis and management of cataract	Cataract <ul style="list-style-type: none"> • Cause • Sign/Symptoms • Diagnosis • Treatment • Complications • Referral 	1
17	Perform diagnosis and management of iritis	Iritis <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Diagnosis • Treatment • Prevention • Complications • Referral 	1
18	Perform diagnosis and management of trachoma	Trachoma <ul style="list-style-type: none"> • Definition • Cause • Sign/Symptoms • Diagnosis • Treatment • Prevention • Complication 	1
19	Perform diagnosis and management of Glaucoma	Glaucoma <ul style="list-style-type: none"> • Cause, Sign/Symptom, • Diagnosis • Treatment • Complication • Referral 	1
20	Perform diagnosis and management of hemorrhoids	Hemorrhoids <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Treatment • Complications • Referral 	1
21	Perform diagnosis and management of Cyst	Cyst <ul style="list-style-type: none"> • Definition • Classification • Cause • Clinical feature • Treatment • Complications • Referral 	2
22	Perform diagnosis and management of Anal Fistula	Anal Fistula <ul style="list-style-type: none"> • Definition 	1

		<ul style="list-style-type: none"> • Cause • Clinical feature • Treatment • Complications • Referral 	
23	Perform diagnosis and management of Mastitis	Mastitis <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Treatment • Complications • Referral 	1
24	Perform diagnosis and management of Hernia	Hernia <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Management • Complications 	2
25	Perform diagnosis and management of Acute abdomen	Acute abdomen <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Investigation • Differential diagnosis • Management • Complication 	5
26	Perform diagnosis and management of Acute appendicitis	Acute appendicitis <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Investigation • Management • Complication 	5
27	Perform diagnosis and management of intestinal obstruction	Intestinal obstruction <ul style="list-style-type: none"> • Introduction • Cause • Clinical feature • Investigation • Management • Complication 	3
28	Perform diagnosis and management of Acute cholecystitis/cholilithiasis	Cholecystitis/ cholilithiasis <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Investigation • Management • Complication 	3

29	Perform diagnosis and management of hydrocele	Hydrocele <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Management • Complication 	1
30	Perform diagnosis and management of retention of urine	Retention of urine <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Investigation • Treatment • Management • Complication 	3
31	Perform diagnosis and management of haematuria	Hematuria <ul style="list-style-type: none"> • Definition • Cause • Clinical feature • Investigation • Management • Complication 	1
32	Perform diagnosis and management of head injury	Head injury <ul style="list-style-type: none"> • Definition • Causes • Clinical features • Investigation • Management • Complication 	2
33	Perform diagnosis and management of spinal cord injury	Spinal Cord Injury <ul style="list-style-type: none"> • Introduction • Clinical features • Investigation • Management • Complication 	1
34	Perform diagnosis and management of tumor	Tumor <ul style="list-style-type: none"> • Definition • Types • Difference between Malignant and benign tumor • Sign and symptoms of malignant and benign tumor • Diagnosis and Referral 	5
35	Perform diagnosis and management of epistaxis	Epitaxis <ul style="list-style-type: none"> • Definition • Cause • Signs / Symptoms • Management 	1

36	Perform diagnosis and management of burn	Burn <ul style="list-style-type: none"> • Definition • Types • Calculation of Burn • Signs / Symptoms • Management • Complication 	4
37	Identify and Management of Shock	Shock <ul style="list-style-type: none"> • Definition • Types • Cause • Signs/Symptoms • Management • Complication 	6
38	Identify Glas gows coma scale	<ul style="list-style-type: none"> • Definition • Importance 	2
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First Aid

S. N.	Tasks/Contents	Related technical Knowledge	T
1	Define of First Aid	<ul style="list-style-type: none"> • Definition of first aid and emergency care • Duties and responsibilities of first aider • Triage • Importance of first aid management. 	4
2	Define basic life support Perform mouth to mouth respiration Perform Cardiac massage	<ul style="list-style-type: none"> • ABC management • CPR Perform mouth to mouth respiration <ul style="list-style-type: none"> • Definition • Importance to give mouth to mouth respiration • Method or process to give mouth to mouth respiration Perform Cardiac massage <ul style="list-style-type: none"> • Introduction • Need for cardiac massage • Technique 	4
3	Perform first aid management of chocking	Chocking <ul style="list-style-type: none"> • Definition, • Causes • Signs and symptoms • Management • complication 	1
4	Perform first aid management of high altitude sickness	High altitude sickness <ul style="list-style-type: none"> • Introduction • Signs/Symptoms • Prevention • First Aid Management 	1

5	Perform first aid management on sun burn	Sun burn <ul style="list-style-type: none"> • Definition • Signs/Symptoms • Prevention • First Aid management 	1
6	Perform first aid management of high fever	High fever <ul style="list-style-type: none"> • Definition of fever • Types of fever • Causes of fever • Danger of high fever • Sign/Symptom • First aid management 	1
7	Perform first aid Management of Drowning	Drowning <ul style="list-style-type: none"> • Definition • Prevention from drowning • Sign and symptoms of drowning • First Aid management 	1
8	Manage shock	<ul style="list-style-type: none"> • Definition of shock • Causes • Types • Sign/symptom • First aid management 	1
9	Perform first aid management on frost bite	frost bite <ul style="list-style-type: none"> • Definition • Sign and symptom • Prevention • First Aid management 	1
10	Perform first aid management of snake bite	<ul style="list-style-type: none"> • Types of snake • Signs and symptoms of poisonous and nonpoisonous snake bite • Common poisonous snake in Nepal • Prevention • First aid management • Complication 	2
11	Perform first aid management of dog bite	<ul style="list-style-type: none"> • Identification • Prevention • S/S of mad dog and bitten victims • First Aid management • Danger 	1
12	Perform first aid management of animal and insect bite	<ul style="list-style-type: none"> • Identification • Signs/symptoms • Complication • First aid management. 	1
13	Perform first aid management of burn/scalds	<ul style="list-style-type: none"> • Define burn and scalds • Types • Degree 	2

		<ul style="list-style-type: none"> • Prevention • First aid management • Complications • Referral 	
14	Perform first aid management of electrical injury	<ul style="list-style-type: none"> • Identification • Prevention • First Aid management • Complication. 	1
15	Manage hemorrhage	<ul style="list-style-type: none"> • Definition • types • pressure point • management • rehydration • Complication 	1
16	Perform first aid management of fracture/dislocation/ sprain	<ul style="list-style-type: none"> • Definition of fracture, dislocation and sprain • Types • First Aid Treatment • Complication 	5
17	Perform first aid management of fit and convulsion	<ul style="list-style-type: none"> • Definition • Causes • Sign and symptom • First Aid Treatment • Dangers 	1
18	Perform first aid management of poisoning	<ul style="list-style-type: none"> • Definition • Types of poison (organophosphorus, kerosene, mushroom, food poisoning) • Sign and symptom • Prevention • First aid treatment 	4
19	Remove the foreign body from the throat	<ul style="list-style-type: none"> • Introduction • Ways of foreign body introduced • Diagnosis of foreign body • Process of removing foreign body • Complication 	1
20	Remove the foreign body from the nose	<ul style="list-style-type: none"> • introduction • ways of foreign body introduced • Diagnosis of foreign body • process of removing foreign body • Complication 	1
21	Remove foreign bodies from the eye	<ul style="list-style-type: none"> • Definition of foreign body • Types of foreign body • Ways of foreign body introduced • Diagnosis of F.B. 	1

		<ul style="list-style-type: none"> • Process of removing F.B. • Complications 	
22	Remove the foreign body from ear	<u>Introduction</u> <ul style="list-style-type: none"> • Ways of foreign body introduced • Diagnosis of foreign body • Process of removing foreign body • Complication 	1
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Guidelines for Practical

A. Health post (PHC/HP/SHP):

Practical Areas: OPD, Mobile Clinic, MCH Clinic/Nutrition, Dispensary

Practical Task:

- Identify the PHC/HP/SHP staffing pattern, their job description in PHC, HP & SHP.
- Develop work plan.
- Perform administrative work.
- Develop different chart for statistical data of HP.
- Identify the minimum 10-15 basic medical problem, provide the treatment and if not manage to refer proper channel.
- Provide health education any one health problem (make a lesson plan).
- Manage inventory in well manner
- Conduct meeting with health post staffs any one change process (any one real need of the HP for the management point of view and write minute.
- Fill the different HMIS form using in health sectors.
- Select proper recording technique and reporting
- Maintain daily diary (individual student).
- Prepare and present the report about the health post activity and challenges/issue in PHC/HP/Institute.

B. General hospital (H):

Practical Areas:

- Different ward-Emergency unit, surgical ward, Medical ward, Child ward, Gynae/Obst. Ward.
- OPD- ENT, Eye, Dental, Psychiatric and MCH /Family Planning clinic.

Practical Task:

- Perform general physical examination/history taking 5-10 cases and identify the needy problem and manage (In Emergency unit).
- Perform suturing /dressing minimum 5 cases (In surgical ward).
- Perform catheterization/enema and N/G tube insertion procedure minimum 5/5 case in different ward.
- Perform general physical examination/history taking and calculate the LMP /EDD 5-10 Antenatal mothers (In Gynae/obst.ward).
- Identify the growth and development of less than 5 years child (In MCH clinic).
- Identify and manage solid waste/ liquid waste management.
- Perform personal hygiene.

C. Community field

Practical Task:

- Conduct community survey(Fill up family folder 2-5 home individual student)
- Identify and manage excreta disposal
- Identify environmental hazards and their management
- Conduct health teaching and health action selected one home (individual student).
- Maintain diary book (individual student).

- Prepare and present report about the community diagnosis in community field/Institute.

D. School Health Programme

Practical Task:

- Assess the school health environmental sanitation.
- Perform the simple physical examination eg. Height, weight, hair, ear (hearing test) ,eye (vision test), teeth, skin, nail, vital signs and nutritional status.
- Conduct health instruction classes in school (individual student conduct one class with lesson plan).
- Prepare and present the report about the school health programme in school /institute.

E. Laboratory (H.L.)-In hospital

Duration: 2 weeks

- Examine the urine /stool at least 5-10 cases
- Examine the blood for hemoglobin at least 5-10 cases.
- Prepare the blood smear for malaria if available.
- Perform Blood grouping at least 5-10 cases.
- Take blood sample at least 5-10 cases.

F. OJT-health post/ Dist. Hosp.:

Practical Areas Total 12 weeks:

- Emergency unit (3 weeks)
- Child ward/ under 5 year clinic (3 weeks)
- Gyne/obstetric ward/ANC (3 weeks)
- Surgical OPD (minor OT/Dressing) (1 week)
- ENT/EYE OPD (1 week)
- Dispensing/Pharmacy (1 week)

Practical Task-

- Maintain log book every practical area (TSLC) distributed by Nepal health Professional Council.
- Maintain daily diary book.

सन्दर्भ सामग्री (Reference Books)

१. समुदाय विकासमा स्वास्थ्य पक्ष: डा. यगेन्द्र प्रधानाङ्ग
स्वास्थ्य विकास समाज, २०५३
२. पाठशाला स्वास्थ्य र स्वास्थ्य कार्यकर्ताहरु: डा. यगेन्द्र प्रधानाङ्ग
स्वास्थ्य विकास समाज, २०५४
३. संक्रमणमा प्रयोग हुने औषधीहरु: डा. नवीन श्रेष्ठ
स्वास्थ्य विकास समाज, २०५३
४. वेसिक प्रिन्सिपल अफ सर्जरी : निरन्जन आचार्य
एजुकेशनल एण्ड कम्युनिटि हेल्थ
अर्गनाइजेशन, २०५४
५. आधारभूत शरिर रचना तथा क्रिया विज्ञान : एजुकेशनल एण्ड कम्युनिटि हेल्थ
अर्गनाइजेशन, २०५४
६. वातावरणीय स्वास्थ्य: शत्रुधन ओझा
जनशक्ति विकास तथा अनुसन्धान संस्थान,
२०५४
७. समुदाय स्वास्थ्य शिक्षाको रूप रेखा: डा. यगेन्द्र प्रधानाङ्ग/डा देबी बहादुर श्रेष्ठ
एजुकेशनल इन्टरप्राइजेज, २०५३
८. सरुवा रोग: डा. संजीव हुंगेल/डा उग्रनारायण पाठक
एजुकेशनल इन्टरप्राइजेज, २०५१
९. टेकस्ट बुक अफ मेडिसिन : डा. संजीव हुंगेल/ डा उग्रनारायण पाठक
एजुकेशनल इन्टरप्राइजेज, २०५१
१०. क्लिनिकल मेडिसिन: डा. संजीव हुंगेल/ डा उग्रनारायण पाठक
एजुकेशनल इन्टरप्राइजेज, २०५१
११. प्रसव स्याहार:- शकुन्तला शाक्य: एजुकेशनल इन्टरप्राइजेज, २०५३
१२. टेकस्ट बुक अफ हेल्थ एजुकेशन : हरिभक्त प्रधान
एजुकेशनल इन्टरप्राइजेज, १९९७
१३. स्वास्थ्यका लागि शिक्षा: विश्व स्वास्थ्य संघ
स्वास्थ्य शिक्षण सामाग्री केन्द्र
१४. पोषण र स्वास्थ्य : डा. रमेश कान्त अधिकारी
स्वास्थ्य शिक्षण सामाग्री केन्द्र
१५. Community Diagnosis: Dr. Cinthia B. Hole and other
Health Learning Material Centre
१६. Medical Problems for Health post worker: Dr. Harding
Health Learning Material Centre
१७. HMIS Training Manual: NHTC
१८. LMIS Training Manual: NHTC
१९. A companion pocket book of pharmacy and Pharmacology (Author: Raj
Kumar Thapa)
२०. Pharmacy and Pharmacology: Raj kumar Thapa and Surya Narayan Gainju
२१. Basic medicine + pharmacy and pharmacology (Dr.prakash subedi & Hari sharan
Thapa)

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1st revision

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