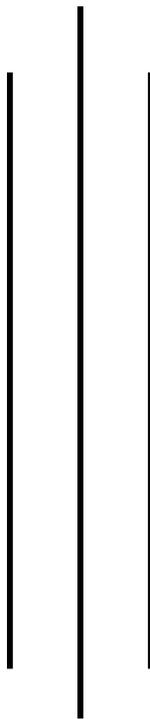# CURRICULUM

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Computer Operator

(Basic Computer Application)

(SHORT COURSE)

Council for Technical Education and Vocational Training

Curriculum Development Division

Sanothimi, Bhaktapur

Revised on: 2008

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Contents

Introduction

The competency based and market oriented curriculum for "Computer Operator" is designed to produce employable workforce equipped with knowledge, skills and attitudes related to the clerical occupation. Once the trainees acquired the competencies they will have ample opportunity for wage employment and self-employment through which they will contribute in the national streamline of poverty reduction in the country

Aim

The main aim of this program is to produce employable Computer Operator who could provide clerical services in the government, semi government and private organizations as well as also creates self employment opportunities as well.

Objectives

After completion of training the trainees will be able:

1. To acquire the Concept of computer fundamentals
2. To use MSDOS to edit and run different types of programs
3. To Use MS Window XP, Windows 7, Widows 8 to customize your computer and edit, run different types of programs
4. To use Word Processing Program to edit, write and publish anything
5. To use Spreadsheet Program and keep simple daily transaction in proper way
6. To create the slides and show them in desired way using Presentation Program.
7. To prepare the required software to calculate and maintain the tables and files using Database Program
8. To edit & Design the photo using Photo Editing Program.
9. To browse Email and Internet
10. To use of computer hardware & Network in office automation.

Description

This curriculum is based on the job required to be performed   by a computer operator. This course is designed to equip trainees with knowledge and skills of the field of on basic computer application. This course consists of three sections viz;: SOFTWARE SECTION, HARDWARE SECTION and NETWORK SECTION. Moreover, the SOFTWARE SECTION includes MS DOS, MS Window XP, Windows 7, Windows 8, Word Processing Program, Spreadsheet Program, Presentation Program, Database Program, Photo Editor Program and Em@il and Internet modules.
Trainees will practice & learn skills using computer and peripherals necessary for the program.

Duration

The total duration of the course extends over 220 hours.

Target Group

The target group for this training program will be all interested individuals in the field computer application; with educational prerequisite of minimum SLC pass.

Target location

The target group for this training program will be all over Nepal.

Group Size
The group size of this training program will be maximum 20, provided all necessary resources to practice the tasks/ competencies as specified in this curriculum.

Medium of Instruction
The medium of instruction for this program will be Nepali or English or both

Pattern of Attendance
Trainee should have 90% attendance during the training period to get the certificate.

Focus of Curriculum
This is a competency-based curriculum. This curriculum emphasizes on competency performance. 75% time is allotted for performance and remaining 25% time is for related technical knowledge. So, the main focus will be on performance of the specified competencies in the curriculum.

Entry Criteria
Individuals who meet the following criteria will be allowed to enter this curricular program:
- Minimum of SLC pass
- Nepali citizen
- Minimum of 16 years of age
- Should pass entrance test

Instructional Media and Materials
The following 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.).

Teaching Learning Methodologies
The methods of teachings for this program will be a combination of several approaches. Such as Illustrated Lecture, Group Discussion, Demonstration, Simulation, Guided practice, Practical experiences, Fieldwork and Other Independent learning.
- ➢ Theory: Lecture, Discussion, Assignment, Group work.
- ➢ Practical: Demonstration, Observation, Guided practice and Self-practice.

Follow up Provision
First follow up: Six months after the completion of the program
Second follow up: Six months after the completion of the first follow up
Follow up cycle: In a cycle of one year after the completion of the second follow up for five years

Grading System

The trainees will be graded as follows based on the marks in percentage secured by them in tests/ evaluations.

- Distinction: Passed with 80% or above
- First Division: passed with 75% or above
- Second Division: passed with 65% or above
- Third Division: passed with 60% or above

Students Evaluation Details

- Continuous evaluation of the trainees' performance is to be done by the related instructor/ trainer to ensure the proficiency over each competency under each area of the whole course.
- Related technical knowledge learnt by trainees will be evaluated through written or oral tests as per the nature in the institutional phase of training.
- Trainees must secure minimum marks of 60% in an average of both theory and practical evaluations.
- The entrance test will be administered by the concerned training institute.

Trainers' Qualification (Minimum)

- BE in computer Engineering or equivalent
- Good communicative and instructional skills
- Experience in related field

Trainer-Trainees Ratio

- In theory classes 1(trainer): 20 (trainees)
- In practical classes (in workshop and laboratory) 1(trainer): 10 (trainees)

Suggestions for Instruction

1. **Select objectives**
   - Write objectives of cognitive domain.
   - Write objectives of psychomotor domain.
   - Write objectives of affective domain
2. **Select Subject matter**
   - Study subject matter in detail.
   - Select content related to cognitive domain.
   - Select content related to psychomotor domain.
   - Select content related to affective domain.
3. **Select Instructional Methods**
   - Teacher centered methods: like lecture, demonstration, question answers inquiry, induction and deduction methods.
   - Student initiated methods like experimental, field trip/excursion, discovery, exploration, problem solving, and survey methods.
   - Interaction methods like discussion, group/team teaching, microteaching and exhibition.
   - Dramatic methods like role play and dramatization
4. Select Instructional method (s) on the basis of objectives of lesson plans and KAS domains.
5. Select appropriate educational materials and apply at right time and place.
6. Evaluate the trainees applying various tools to correspond the KAS domains.

7. Make plans for classroom / field work / workshop organization and management.
8. Coordinate among objectives, subject matter and instructional methods.
9. Prepare lesson plan for theory and practical classes.
10. Deliver /conduct instruction / program.
11. Evaluate instruction/ program.

Special suggestion for the performance evaluation of the trainees
1. Perform task analysis.
2. Develop a detail task performance checklist.
3. Perform continuous evaluation of the trainees by applying the performance checklist.

Suggestion for skill training
1. Demonstrate task performance in normal speed.
2. Demonstrate slowly with verbal description of each and every step in the sequence of activity of the task performance using question and answer techniques.
3. Repeat 2 for the clarification on trainees demand if necessary.
4. Perform fast demonstration of the task.

Provide trainees the opportunities to practice the task performance demonstration

1. Provide opportunity to trainees to have guided practice.
2. Create environment for practicing the demonstrated task performance.
3. Guide the trainees in each and every step of task performance.
4. Provide trainees to repeat and re-repeat as per the need to be proficient on the given task performance.
5. Switch to another task demonstration if and only trainees developed proficiency in the task performance.

Other suggestions
1. Apply principles of skill training.
2. Allocate 20% time for theory classes and 80% time for task performance while delivering instructions.
3. Apply principles of learning relevant to the learners' age group.
4. Apply principles of intrinsic motivation.
5. Facilitate maximum trainees' involvement in learning and task performance activities.
6. Instruct the trainees on the basis of their existing level of knowledge, skills and attitude.

Certificate Requirements
The related training institute will provide the certificate of" **Computer Operator (Basic computer Application"** to those trainees who successfully complete the prescribed course and conducted evaluation.

Physical Facilities

The theory class rooms at least should have area of 10 square feet per trainee and in the workshop it should be at least of 30 square feet per trainees. All the rooms and laboratory should be well illuminated and ventilated.

- Well equipped computer lab with adequate space   1 (No.)
- Well furnished class room with adequate space   1 (No.)
- Office room equipped with modern facilities   1 (No.)
- Principle room equipped with modern facilities   1 (No.)
- Reception room equipped with modern facilities   1 (No.)

Equipment list

ITEM	QUANTITY
Computer P 4 or Latest	As per Requirements
Furniture	As per Requirements
Computer Programs (MS DOS, MS Windows XP, 7, 8 or latest MSOffice, MSWord, MS Excel, MS PowerPoint, MS Access, Adobe Photoshop)	
Hardware and peripheral device and Device driver	
Network card, cable, modem, hub, connector	

Consumables materials (for class of 30):

ITEM	QUANTITY
DVD Pen Drive Hardware Device Modem, Network Card, Cable, Connector.	As per Requirements

Course Structure of Computer Operator

S. No.	Modules	Class hrs		
		T	P	Total
1	Introduction to Computer	2	5	7
2	Operating System CUI: DOS GUI: Windows XP, Windows 7, Windows 8, Open source	6	21	27
3	Word Processing Program	4	22	26
4	Spreadsheet Program	4	22	26
5	Presentation Program	2	10	12
6	Database Program	4	18	22
7	Photo Editor Program	2	14	16
8	Email, Internet & Webpage	5	17	22
9	Computer Hardware & Networking	5	13	18
10	Computer Security	2	2	4
11	Entrepreneurship Development	18	22	40
	Total	**54**	**166**	**220**

Module 1: Introduction to Computer
Duration: 7 hrs (2 hrs theory & 5 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Introduce Computer • Familiarize computer generation. • Familiarize the digital computer • Familiarize Memory unit • Familiarize storage devices • Familiarize Input and output devices • Familiarize Printer • Familiarize Scanner	• Introduction to computers • History of computers and its generation. • Classifications of digital computer • Memory unit & its capacity • Auxiliary storage devices • Input and output devices	1	2
2	• Familiarize Computer Software • Familiarize Compiler & Interpreter • Familiarize Utility Program • Familiarize Virus removal software • Familiarize application software	• Computer Software • Computer Language • Utility Program • Virus & its type • Antivirus & its type. • Basic application program	½	2
3	• Familiarize with Keyboard.	• Keyboard layout & key, Keyboard button handling • Nepali Typing • Typing speed	½	1
Total			**2**	**5**

Module 2: Operating System
Duration: 27 hrs (6 hrs theory & 21 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1.	• Understand the basic principle of operating system • Understand the different types of operating system	• List out the name of operating system • Differentiate the GUI and CUI operating system • Major function of operating system • Define open source operating system • Define mobile operating system	**1**	-
2	• Basic operation of Disk Operating System	• General knowledge of MS-DOS	**½**	-
2.1	• Turn on, off computer system • Open and exit DOS operating system • Practice dir, cls, date, time, vol, label, exit, commands • Get the help in DOS • Make the directories using MD command. • Change the directory using DVD command. • View the subdirectories in TREE structure.	• Knowledge of POST operation • Introduction of DOS • Running and closing DOS. • Internal and external commands. • Using command syntax in dos. • Making and changing directories using MD and DVD command. • Getting help about commands in dos using HELP command. • Using TREE commands to view the directories & its contents.	1/4	**1**
2.2	• Create .txt and .doc files. • Save the file. • Open the Create files using the path. • Switch to parent directory. • Edit the files created in any directory. • Rename the files and directories. • Remove the subdirectories and directories using RD and DEL commands.	• Different types of files and their extension. • Creating and saving files. • Using edit command and edit menu to edit the files. • Renaming files and directories. • Deleting files and directories using DEL and RD command respectively.	**1/4**	1

2.3	• Practice copy and move command to change the location of the files and directories. • Perform XCOPY command. • Format a disk using FORMAT command. • Copy and move files &directoriesfrom one location to another location.	• Copying and moving files and directories to different location. • Using XCOPY command. • Formatting disk. • Copying& movingfiles & directoriesfrom one location to another location.	1/4	1
2.4	• Find out the files using (*) & (?) wild card with DIR command. • Manipulate the file attributes by ATTRIB command. • Find out the hidden files or hide the files. • Create simple BAT file.	• Knowledge on how to search files and folders using * with DIR commands. • Hiding and attributing the files and directories. • Using and creating of BAT file.	1/4	1
3	**Window Operating System**	• Basic Concept of Window XP Professional or Window 7 professional or Window 8.1 Professional	½	-
3.1.	• Start the window operating system log on with user name and password. • Using the Mouse: Pointing, Clicking, Double-clicking, Dragging, Right-clicking • Use Start Menu , Help and Support • Run Paintbrush from start menu and draw the different pictures using paintbrush tools. • Save the drawing and open it.	• Knowledge of development of window operating system • Different types of windows operating systems. • Logging on to windows XP, Window 7 or Window 8.1. • Desktop, icons and taskbar. • Using mouse. • Using start menu and Help • Using paintbrush for drawing. • Saving and opening the drawings	1/4	2

3.2.	• Open and understanding a window. • Sizing Buttons of window • Move and Resize a Window • Switch Between Windows • Delete and restore the files and folder of the recycle bin.	• Different parts of windows. • Function of Title bar, Menu bar, caption buttons and Scroll bar • Resizing the windows using mouse. • Moving the windows to different direction of the desktop using mouse. • Default icons of desktop and their use	1/4	1
3.3.	• Understand What's in Your Computer • Open Drives, Folders, and Files • Windows Explorer Window and Navigate the computer • Create Folder and File • Select Multiple Folders and Files • Copy and Move Folders and Files • Change Window Layout and Views • Sort and Filter Items • Use Search • Work with Compressed Folders • Format a Pen Drive	• Managing files and folder. • Using windows explorer to manage files and folder. • Creating new folder. • Renaming files and folder. • Opening files and folder. • Deleting files and folder. • Using copy, cut, move and paste. • Creating shortcut of the files and folder. • Searching files and folders. • Handling Pen Drive	1/4	2
3.4.	• Run different programs from start menu or run command • Run Notepad, Word-Pad, Calculator • Shut down the computer. • Restart the computer • Logoff the user. • Hibernate the computer	• Using the start menu • Using Programs, Accessories, Startup, Internet Explorer, Documents, Settings, Search, Help, Run and Shutdown	1/4	1

3.5.	• Customize the Taskbar • Resize and Move the Taskbar • Use Jump Lists • Customize the Start Menu • Work with Desktop Icons • Use Gadgets • Start a Program Automatically with Windows	• Changing the position and size of the taskbar. • Using quick lunch toolbar. • Hiding and displaying taskbar • Placing icons on taskbar.	½	2
3.6.	• Personalize Windows • Change Color and Theme • Change the Desktop Background • Use a Screen Saver • Adjust Display Settings • Adjust Sound • Adjust the Mouse • Change the Date and Time • Change Language and Region • Customize Folder View Options	• Choosing a screen saver. • Changing the appearance of windows elements. • Changing desktop icons and effect. • Modifying the display of colors and resolution. • Modify language setting	½	3
3.7.	• Connect to the Internet • Connect Broadband Connections • Connect to a Wireless Network • Diagnose and Repair a Connection using Windows. • Share Files and Folders	• Concept of Computer Network • NIC Card • File and folder sharing concept	½	3
3.8.	• Open Control panel • Install of fonts • Install New Hardware with plug and play • Install a local Printer • Insert and remove USB Flash Drives • Troubleshoot Hardware • Adjust Power Settings • Repair Disk Errors • Defragment Your Hard Disk • Restore Computer	• Concept control panel • Hardware and software installation • Power saving • Disk repairing • Restore point	½	3
Total			6	21

Module 3: Word Processing Program
Duration: 26 hrs (4 hrs theory & 22 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Open and Close Word Processing Program. • Open a new file/ existing files in word processing program. • Open recent files • Close the file • Save the file giving the suitable name with or without password. • Use password to open the files. • Store the file in different locations using the save as command.	• Definition of word processing with its uses. • Running Word Processing Program. • Creating files. • Saving files. • Opening files.	½	1
2	• Separate the required area on the document by using the left, right, and top and bottom margin. • Measure the size of the page and fix the text and object in the desired position while printing. • Keep two sheets on a page. • Show the view in mirror. • Fix the gutter position. • Adjust the paper in portrait or landscape mode. • Select the paper size.	• Knowledge on setting the page. • Using margins/gutter. • Selecting paper size & paper orientation. • Selecting paper layout.	1/4	1½
3	• Display the document in print preview. • Edit the text from the preview stage. • Print the document. • Copy the files in the Pen Drive. • Send the files as the email.	• Print preview of the document and Copying/ sending as email of the document. • Using send to command from file menu. • Printing document	1/4	1½
4	• Repeat the command previously given and undo that using redo and undo command. • Cut the text and keep that in memory for pasting later. • Copy the text and paste it in the desired location. • Clear the whole document.	• Copy, cut and Paste in different locations including other commands like undo, redo, delete • Using edit menu and other commands.	1/4	1½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	• Select the character, word, line, paragraph and the whole document.			
5	• Replace the wrong word by the correct one by using CRTL +H command. • Go to line number, page number, bookmark, paragraph by using CTRL +G command. • Show and Hide the various tool bars. (Standard, formatting, drawing, word art.) • View the document in different view like print layout, normal, outline. • Use header and footer option to type the heading and logos of the companies. • Show and hide rulers on the screen. • Make full screen/ increase and decrease the document sizes. • Zoom in or zoom out.	• Finding the text. • Replacing the text. • Jumping on Page, line paragraph - Using view menu to show/hide toolbars. • Using header/footer. • Setting ruler. • Viewing a document with Magnifying as percentage wise.	1/4	2
6	• Insert the page numbers of the different formats in the documents including dates and time and other information like authors name. • Insert mathematical and other types of symbols in the document. • Write comments, footnote and endnotes on the documents. • Insert field names and auto text on the document. • Insert pictures or charts from the file, scanner and word art or from the clipart. • Put text box on the page and write on it. • Remove the text box. • Fill colors in the text box.	• Idea on inserting page, page number, symbols, date, field name. • Knowledge on inserting text box and formatting it. • Using colors. • Using footnote & endnote	½	2½
7	• Insert bookmark. • Insert other applications file on the document as an object. • Establish the link between the files to jump from one file to another.	• Using bookmark, hyperlink. • Inserting objects. • Knowledge on creating style of text (heading1,heading2) • Creating table of contents	1/4	2

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	(Hyperlink) • Use auto text, auto format • Modify the Table of Content from the index and table.			
8	• Change the color of the font and font styles. • Apply the text superscript and sub script. • Increase and decrease the space between the characters by expanding or condensing by certain points. • Modify the text with different types of text effects, which is non-printable. • Edit the paragraph, Increase/ decrease the space between the lines.	• Using format menu for changing its basic appearances of fonts. • Using format menu for paragraphs. • Aligning the text. (left, Center, Right & Justify) • Using superscript & subscript	1/4	1½
9	• Apply the suitable number or bullets' format. • Apply borders around the page or text and apply shadow. • Apply the artistic page border. • Remove the shadow and page boarder including the shadow of the text. • Type in the text in two or more columns as in the newspaper. • Apply colorful background. • Change the case of the characters and set the tab. • Use drop caps and themes	• Inserting bullets and numbering • Inserting background • Changing the letter case • Using drop cap & themes • Inserting columns.	1/4	1
10	• Format picture and use it as background. • Place picture on the desired location. • Increase and decrease the brightness and contrast of the picture. • Check spelling, language and grammar. • Use the macro to get the different function done.	• Selecting the layout of the picture. • Using spelling & grammar check. • Using macro recording. • Knowledge on inserting picture	1/4	2
11	• Type the address in the envelope and print it. • Draft the letter using the letter wizard. • Use the track change style as wished by the user.	• Using letter wizard • Using Track change. • Using Thesaurus. • Printing on envelops.	1/4	1½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	• Find antonyms & synonyms.			
12	• Apply different style of the table. • Delete the table. • Merge cell and remove the merged cell. • Find the sum of the given data, add, remove and format the cell. • Convert the text in the table and remove the table. • Show and hide the gird lines. • Sort the data given in the table. • Format the table.	• Knowledge on inserting/ formatting table. • Splitting & merge cell. • Using auto format. • Inserting formula. • Using table properties.	½	2
13	• Show the new window. • Split the window. • Arrange the window. • Merge letters to the addresses. • Open the help file in the word processing and get. • Create other inventive (creative or original) items.	• Customizing the window. • Splitting & removing windows. • Arranging windows. • Using mail merge.	1/4	2
Total			**4**	**22**

Module 4: Spreadsheet Program
Duration: 26 hrs (4 hrs theory & 22 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Open Spreadsheet and close it. • Enter the data in proper way. • Enter the text and edit it. • Enter Date and Time in the cell. • Change the direction of the movement of the key cell while pressing the enter key. • Save the enter data with suitable file name with or without password	• Opening Spreadsheet. • Entering the Data. • Customizing the key cell movement.	1/4	2½
2	• Move the key cell by using arrow combination or page down/ page up keys. • Move the cell by using mouse. • Jump from one sheet to another. (Using mouse, keyboard and go to command) • Move within the formulas. • Select the cell, range of cell, the whole sheet, several sheets and different ranges in the same sheet, which are non-continuous, a single column or a single row.	• Knowledge on the movement of the key cell. • Knowledge on selecting range, sheet, column, rows.	1/4	1
3	• Insert new row or column into a work sheet. • Insert a range of cells. • Resize the cell height or width. • Save the workbook, a backup copy and summary information. • Use copy, paste, find, replace and go to tools. • Check the spelling in a worksheet. • Minimize and maximize the window of the workbook. • Exit from the worksheet and create a new.	• Inserting row and column. • Checking spelling and grammar. • Knowledge on workbook. • Working with worksheet. • Using copy, paste, find, go to commands of the edit menu.	1/4	1

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
4	• Use built- in toolbar. • Change the view of the worksheets. • Zoom in /out the view. • Redo/ undo the command formerly given. • Show an office assistant and change it. • Align the data to the left, right or center, top or bottom. • Merge the cells into a single cell. • Remove the merged cells. • Rotate the texts in different angles. • Wrap and shrink the text. • Set the font styles • Format the numbers. • Set decimal places. • Format Rows and columns.	• Handling built in tools. • Wrapping text. • Setting Styles. • Formatting number, text. • Setting decimal places • Viewing worksheet as magnifying. • Modifying the worksheet's cell, row and column.	1/4	2½
5	• Increase/Decrease the column and row height and width. • Delete cells, formats, objects and worksheets. • Edit/ add or remove the borders. • Use auto format to format the table automatically. • Copy the data in different locations using clipboard and without using it. • Apply drag and drop method to copy the data. • Copy the whole column, rows including the formulas.	• Deleting cells. • Inserting border. • Copying the column with formula. • Using several methods to move and copy data.	1/4	1
6	• Insert formula and function into the sheet. • Use different functions like sum, count, v look up, h look up, average, max, min, and round. • Use chart wizard to insert the chart. • Select the right chart icon for the desired chart • Change the color of the chart as desired. • Set the page margin for printing.	• Knowledge on the types of operators used in Spread Sheet. • Using formula. • Inserting charts and editing work. • Setting page margins. • Inserting header and footer. • Making suitable arrangements for printing.	½	3½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	• Set the print quality for the data output. • Change the header and footer height.			
7	• Change the margin of the data using the print preview. • Print out the document in the proper position of the page. • Print the document sideways. • Print the row titles on each sheet. • Use the print preview before printing. • Print the multiple sheets at the same time.	• Editing document in print preview. • Printing documents in a customized way. • Using various printing options.	1/4	1½
8	• Insert/ delete worksheet. • Rename the worksheet. • Display the desired toolbar. • Change the look of the toolbar. • Freeze the panes. • Group /ungroup the sheets. • Edit the series of the data to be displayed like days, months. • Insert the series in the table without typing it. • Set the condition and format according to it.	• Inserting worksheets. • Knowledge on freezing panes. • Grouping sheets. • Creating series. • Using conditional formatting.	1/4	1½
9	• Create the new styles based on the existing formats. • Change the font color. • Apply colors to the cells. • Apply pattern to the cells. • Display the negative numbers on the cell. • Turn off / on the gird lines. • Hide / show the columns, rows, work sheet.	• Customizing the data entered in a cell. • Formatting the fonts. • Formatting the sheet. • Displaying columns, rows and worksheet.	1/4	1
10	• Enter functions directly to the worksheet. • Use wizard to paste the functions. • Use if () function with or & and condition also.	• Defining formula for calculating Amount sheet (Purchase Bill), Salary sheet and mark sheet. (using mathematical operators-i.e arithmetical operator, relational	½	2

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	• Prepare some examples of calculating mathematical problems using all types of operator if () function.	operator, logical operator and also if() condition operator)		
11	• Sort the data by any field. • Use auto filter to view the data. • Set the criteria to filter the data. • Use different operators to filter the data. • Filter top 10 (top 10-auto filter.) • Utilize the advance filter. • Remove the advance filter. • Find out the totals of the fields	• Sorting Data. • Creating filter. • Using advance filter. • Finding subtotal.	1/8	1½
12	• Use data forms. • Make new records. • Move between the records in the list and find the record. • Delete the records.	• Creating data forms. • Entering records. • Deleting records. •	1/8	1
13	• Set the validation rule. • Execute the warning message. • Input error and alert message. • Give an example-using goal seek. • Create an example to use the property of scenario manager.	• Using validation. • Setting other rules for validation. • Using goal seek. • Creating scenario.	1/4	2
14	• Record the macro. • Protect the sheet by password. • Create the button and give the macro action to it. • Give an example using the pivot table. • Create a sample for using the pivot table.	• Recording and using macro. • Setting password. • Creating pivot table.	1/4	2
15	• Insert pictures and comments on the cell. • Merge the cells. • Exporting and importing data from/ to excel program. • Use hyperlink to link between the files. • Prepare mark-sheet record of a school showing the division,	• Inserting Pictures and comments. • Creating hyperlink. • Editing formula required for daily mathematical problems. • Creating profit and loss.	1/4	2½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	position pass, fails. • Prepare a income expenditure table to calculate the income and expenditure in total showing the profit /loss.			
Total			4	22

Module 5: Presentation Program
Duration: 12 hrs (2 hrs theory & 10 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Open and close Presentation program. • Use auto content wizard to create slides. • Create blank presentation. • Prepare slides using template and styles. • Open the prepared slides.	• Introduction presentation program. • Using the auto content wizard • Using the Template and styles to prepare slides. • Presentation media • Effectiveness of presentation tips.	1/4	1
2	• Create objects using text box. • View slides in different styles. • Choose a suitable layout for the given slide. • Add new line and paragraph.	• Viewing the slides in different styles. • Selecting the proper style (slide layout) according to the need. • Moving from one text box to another. • Adding new line/ paragraph within the same text box.	1/4	1
3	• Change presentation style. • Prepare slide title and object. • Use bullets. • Remove bullets. • Inserting line spacing.	• Selecting the type of presentation. • Preparing title slide. • Viewing the contents of the slides. • Using bullets • Increasing/ decreasing the space between the lines and bullets. • Inserting a new line without bullet.	1/4	1
4	• Create new slides. • Insert sub bullets. • Insert more slides titles. • Reduce the slide view.	• Inserting sub-level bullets. • Switching to outline view to create a presentation. • Making new slide. • Entering more slide titles. • Reducing the view of slides. • Moving slides and bullet.	1/4	1
5	• Write the summary. • Format the text. • Draw the shapes using drawing tools. • Change auto shape style. • Select objects. • Group, Ungroup and regroup the objects.	• Writing summary slide. • Formatting the text in the slide. • Using drawing tools in the slide. • Using auto shapes. • Bringing changes in the auto shapes. • Selecting more objects at a time.	1/4	1½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
	• Align the objects. • Rotate objects. • Apply background, shadow and text color. • Print the slides. • Cut, Copy and Paste the objects.	• Grouping/Ungrouping/ regrouping the objects. • Aligning the objects. • Rotating the objects • Copying, cutting, pasting or duplicating any object. • Applying various types of colors for background, shadow, and text. • Printing the slides.		
6	• Prepare the slide of the given measure. • Add animation and sound for different objects. • Set the time for animation. • Show Slides • Set slide transition. • Set custom view in slide presentation • Apply shortcut key.	• Measuring the paper and print out. • Showing the slides. • Adding animation of various types. • Setting up the time for custom animation of the text or objects. • Setting the slide transition method.	1/4	1½
7	• Loop/ Break slide show. • Zoom slides. • Apply design. • End slide show. • Set animation effect on mouse click or automatically. • Create slide short-cut. • Insert action button. • Apply master slides.	• Showing the slide in different styles for a number of times or continuously. • Setting up the loop. • Using zoom to make full screen view. • Applying design. • Ending the slide show. • Setting the event on mouse click or in the certain interval of time. • Applying various animation effects. • Definition of mater slide. • Using master slide. • Creating the slide show short cut. • Inserting Action buttons	½	3
Total			**2**	**10**

Module 6: Database Program
Duration: 22 hrs (4 hrs theory & 18 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Open database and save it. • Create table in design view. • Choose proper data type. • Open the existing file.	• Introduction to MS Access. • Definition of DBMS/RDBMS • Importance & use of Access and electronic database. • Data, information, database, field, record, table, Data type. • Choosing the proper field properties for the suitable data like text, number, date and time, currency, look up wizard.	1/4	2
2	• Move the field order. • Customize data to be entered. • Apply validation rule. • Apply primary key field in the data table. • Limitation to data.	• Definition of primary & foreign key. • Use of primary key • Identify the function of validation rules, validation text, and caption, indexed. • Mention the use of Primary Key (P.K.) • Differentiating the flat database and relational database.	½	2
3	• Fill the tables with data. • Add database to the favorite. • Create relationship. • Enforce data integrity rule. • Use (PK) and (FK) in the relation. • Import & export data.	• Definition of Relationship • Uses of relationship • Types of relationship. • Establishing relationship between the tables. • Applying referential Integrity • Distinguishing one to one, one to many and many to many relationships.	1	2½
4	• Use different formula by using query in table and calculate. • Create query in design view. • Switch between runtime and design view. • Create APPEND, SELECT, MAKE TABLE, DELETE query. • Switch between runtime and design view.	• Give the introduction of the objects used in MS Access like forms, query, and reports. • Using various types of queries. • Calculating the fields using update query. • Creating query in design view and by using wizard. • Changing between the views.	½	2½

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
5	• Insert query parameters to retrieve the data of the table. • Use joins types to show the data.	• Definition & uses of parameters.	1/4	1
6	• Create form using wizard. • Create forms in design view. • Insert input fields & resources. • Insert images. • Place the link (data link) • Format the form & resources.	• Mentioning the use of forms. • Creating the different styles of forms using wizard. • Inserting the images. • Connecting table with the form. • Using the naming convention of buttons, text box, list box.	1/4	2
7	• Customize the form. • Link query in form. • Create text box control • Create Macros & assign task to it. • Use VB code. • Use nested if for complex decision. • Create simple calculator using VB.	• Mentioning the form properties and select the required properties for the form. • Linking query in the form. • Mentioning the use of Macros. • Creating useful macros. • Using VB for decision. • Using nested if • Using text box control.	½	2
8	• Insert check box. • Insert radio buttons. • Use DO command. • Create splash screen. • Create link between tables and forms. • Display message box.	• Using check box control on the form. • Using radio buttons on the form. • Using do command. • Displaying message box. • Creating log on dialogue box. • Creating splash screen.	1/4	2
9	• Create report by wizard. • Use SQL to create table and to run query. • Enter in SQL. • Show the report in print preview and design view. • Customize the report. • Create table. • Select table. • Order the data (sorting). • Update the data of table (calculate). • Link the filed using AS, FROM.	• Knowledge on the function of the reports. • Opening a report using the conditional macros. • Mentioning the use of SQL (Structured Query language) • Using CREATE, SELECT, AS, FROM, ORDER BY, WHERE in SQL.	½	2
Total			**4**	**18**

Module 7: Photo Editor Program
Duration: 16 hrs (2 hrs theory & 14 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Open photo editor program • Open image • Set work area • Create new image • Save image	• Introduction to photo editor program • Tool bar, Option bar, Color palate, History bar etc. • File format (JPEG, GIF, TIFF, PDF, PNG etc) • Different selection tools (Marquee tool, Lasso Tool, Magic Wand) • Crop, resize, Shape/drawing • Type tool, Wrapping Text •	½	2
2	• Make color adjustment • Adjust image • Make selection • Crop image • Resize image • Scan Image/Document • Import Image	• Resolution, pixel • Image mode • Brightness, Contrast, Auto color, Auto level, Color balance, Hue/Saturation. • Opacity, Stamp tool, Blur, Sharpen, smudge tool and different types of Mode.	½	6
3	• Draw/add shape • Work with text • Format Character • Apply filter • Apply gradient fill • Apply effect • Transform image/text • Work with layer	• Normal fill, Gradient fill • Different types of effect • Rotation/Transform image • Use of layer • Use of filter	1	6
Total			**2**	**14**

Module 8: Email, Internet & Webpage
Duration: 22 hrs (5 hrs theory & 17 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Check Internet Connection • Open web browser • Adjust web browser • Open/browse website • Search information on the web • Download information/software • Clear history • Use IMS • Share information through social networking sites	• Define Internet • Advantages/use of Internet • Internet Service Provider • Dial up connection. • Define Web Site • Use of Website. • Brief knowledge of home page, web page, web browser, WWW, HTTP and domain name. • Search engine, searching techniques and download. • History • Useful websites including social network websites	1	3
2	• Create new email account • Compose mail • Send email • Attach a file • Reply email • Forward email • Delete email • Manage/use address book • Print email • Change password • Configure outlook express • Send/Manage email through outlook express	• Define email • Advantages/use of email. • Free email service • Compose, Inbox, Sent item, Trash, Reply, Forward, CC, BCC. • Address book • Concept of Outlook Express. • Use of POP, SMTP, IMAP	1	4
3	• Create & save html page. • Create heading style. • Create different font style	• Introduction to HTML. • Structure of HTML and HTML Tags. • Heading Tags, Paragraph Tags and their attributes. • Font Tag and their attributes.	½	2
4	• Create horizontal line • Apply text format • Create multi column text	• Body tags and attributes • Strike through, super script and sub script tag • Multi column tag and attributes	½	2

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S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
5	• Add/insert images • Create order & unordered list	• IMG tag and attributesBulleted list, Number list tag and attributes	½	1
6	• Create hyperlink	• Define hyperlink • Types of link(Internal and external link) • Anchor and hyperlink tag and attributes.	½	1
7	• Create table	• Define table, row, column and cell. • Table tag and attributes. • Table caption and header • Row span, col span	½	2
8	• Create form	• Definition of tags, attributes, form, textbox, checkbox, radio button, select, submit, reset, text area.	½	2
Total			**5**	**17**

Module 9: Computer Hardware & Networking
Duration: 18 hrs (5 hrs theory & 13 hrs practical)

S.N	Task	Related Technical Knowledge	Th Hours	Pr Hours
1	• Assemble computer components & peripheral. • Connect different peripheral devices like Digital camera, pen drive, printer, scanner	• Concept of assembled and branded computer. • Concept and working principle of Flash drive • Different peripheral components, their driver and finding and installing appropriate application software for them to upload or download the data.	½	1
2.	• Right click on My Computer, select properties and open Hardware tab. • Open Device Manager • Open advanced tab and see user profiles, performance, startup and recovery button and its settings.	• Understanding hardware installation, hardware listing, updating drivers, viewing different hardware components in the system. • Understanding the concept of Virtual memory, page file and environment variables. • Using startup and recovery option for booting settings.	½	1
3.	• Boot computer • Setup BIOS. • Insert windows bootable DVD in the DVD Drive or USB drive. • Install Operating System. • Format the partition using NTFS or FAT32 file system. • Make different logical disk drives • Resize the partition • Create user account & password.	• Understanding the concept of booting the computer for installing operating system. • The concept of BIOS setup. • The concept of formatting hard disk and Windows file systems like NTFS and FAT32. • The concept of installing Operating system in different partitions available in the computer. • The concept of serial numbers, copyright issues in Operating Systems. • The process of creating Primary and Extended partitions in the hard disk.	1	4
4.	• Install application program	• Concept of application program	½	1

S.N	Task	Related Technical Knowledge	Th Hours	Pr Hours
	• Install motherboard driver • Install graphic driver. • Install audio driver • Install Ethernet card driver. • Install printer & scanner driver.	• Concept of motherboard and its components. • Motherboard, its manufacturers, processor type, processing speed, hard disk, DVD ROM, DVDRW, DVD R, DVD RW and their specification should be cleared. • Introduction to Graphics card, Sound Card, Ethernet card (inbuilt or extra) and their specification should be cleared		
5	• Insert Modem or Ethernet Card to the computer • Install Driver for Modem or Ethernet card to the computer.	• Introduction to the Network • Types of Network - LAN, MAN & WAN	½	1
6	• Cut UTP (Untwisted Pair) Cable either CAT5 or 6 and see the color of different cables inside it. • Take RJ45 connector and insert the cables according to the color code specification • Use Clamper to fix cables inside RJ45 in correct position.	• Introduction to the Network Topology i.e. Bus, Star, Ring, Mesh. • Concept of Network protocols like Ethernet, Token Ring, TCP/IP and UDP. • Concept of Network color code standards. • Knowledge of Switch, hub, bridge and gateways. •	½	1
7	• Right Click on My Network Places and select Properties and select Local Area Connection then Right Click it. • Select Network Protocol (TCP/IP) and click on Properties. Enter appropriate IP addresses for default gateway and DNS.	• Knowledge of IP Addressing Techniques. Different Class of IP Addresses. • Knowledge of DHCP and DNS • Concept of Default gateway and Preferred DNS Server and alternate DNS Server. • Concept of Subnet Mask, and static and dynamic IP Addressing.	1	1
8.	• Create broadband internet connection.	• Concept of ADSL Broadband Internet Configuration. • Concept of Wi-MAX Internet Configuration. • Concept of Wirelss Broadband&Cable	½	2

S.N	Task	Related Technical Knowledge	Th Hours	Pr Hours
		InternetConfiguration • Network connection wizard. • ISP • Username & password security. • Speed & bandwidth. •		
9.	• Search files or folders, computer from the network by selecting Network name in Look in box of • Share Printer & drives. • Locate and download files or folders to local computer • Upload files or folders to the server or other computer in the network	• Understanding the working principle of the Network • Understanding Network bandwidth. • Concept of file server. • Concept of Print server. • Concept of Shared folders in the domain or Network	½	1
Total			**5**	**13**

Module 10: Computer Security
Duration: 4 hrs (2 hrs theory & 2 hrs practical)

S.N.	Task	Related Technical Knowledge	Th. Hours	Pr. Hours
1	• Protect computer using password. • Use firewall • Apply security policy in window • Use security in web surfing. • Limit or prevent computer access.	• Understanding Firewall • Concept of IP Address and domain names • Concept of different Security Threats • Introduction to hacking, external challenges on network • Concept of Data Security • Concept of Network filtering	1	1
2	• Install Antivirus software. • Install Utility software. • Apply setting. • Scan virus using Antivirus software.	• Concept of Virus, Malware, Worms, Trojan, Spyware, Adware • Activation of Antivirus Software.	1	1
Total			**2**	**2**

Module: 11 : Entrepreneurship Development

Total: 40 hrs

Theory: 18 hrs

Practical: 22 hrs

Course description

This course is designed to impart the knowledge and skills necessary for micro enterprise or a business unit of self-employment startup. The entire course intends to introduce enterprise, finding suitable business ideas and developing business idea to formulation of business plan.

Course objectives

After completion of this course, students will be able to:
1. Understand concept of enterprise and self-employment
2. Explore suitable business idea matching to self
3. Learn to prepare business plan
4. Learn to keep preliminary business record

S.N.	Task statements	Related technical knowledge	Time (hrs)		
			T	P	Tot.
1.	State the concept of business/enterprises	- Introduction to business/enterprise - Classification of business/enterprises - Overview of MSMEs(Micro, Small and Medium Enterprises) in Nepal - Cost & Benefits of self-employment/salaried job	4		4
2.	Grow entrepreneurial attitudes	- Wheel of success - Risk taking attitude	3		3
3.	Generate viable business ideas	- Business idea generation - Evaluation of business ideas	1	2	3
4.	Prepare business plan	- Concept of market and marketing - Description of product or service - Selection of business location	9	18	27

S.N.	Task statements	Related technical knowledge	Time (hrs)		
			T	P	Tot.
		- Estimation of market share - Promotional measures - Required fixed assets and cost - Required raw materials and costs - Operation process flow - Required human resource and cost - Office overhead and utilities - Working capital estimation and calculation of total finance required - Product costing and pricing - Cost benefit analysis (BEP, ROI) - Information collection method and guidelines - Individual business plan preparation and presentation			
5.	Prepare basic business records	- Day book - Payable & receivable account	1	2	3
		Total:	18	22	40

Textbook:

क) प्रशिक्षकहरुका लागि निर्मित निर्देशिका तथा प्रशिक्षण सामग्री, प्राविधिक शिक्षा तथा व्यावसायिक तालीम परिषद्,

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Logo

Sample

संस्थाको नाम

Name of the institute

(प्राविधिक शिक्षा तथा व्यावसायिक तालीम परिषद्, सानोठिमी, भक्तपुरबाट सम्बन्धन प्राप्त)
(Affiliated to the Council for Technical Education and Vocational Training, Sanothimi, Bhaktapur)

PHOTO
(Graduate)

प्रमाण-पत्र

CERTIFICATE

जिल्ला .... गा.वि.स./न.पा/उ.मा.न.पा./मा.न.पा.वडा नं. .... बस्ने .... का छोरा/छोरी श्री/श्रीमती/सुश्री ....ले

वि.सं ....' देखि वि.सं .... सम्म सञ्चालित कम्प्युटर अपरेटर (बेशिक कम्प्युटर एप्लिकेशनको (१८० घण्टा)को तालीम सफलता पूर्वक सम्पन्न गरेको प्रमाणित गरिन्छ ।

This is to certify that Mr/Ms .... son/daughter of Mr…………….….................. a resident of .... district …………………………… VDC/ Municipality/ (Sub) Metropolitan city has successfully completed **Computer Operator** [Basic computer Application] **(180 hours)** conducted from .... to ....

....

Date of issue: ……………..   **(Course Coordinator)**   **(Director/Principal)**