Analysis and Planning Tables

5729

Computing Support

Training Sector

1

Administration, Commerce and Computer Technology

Reach for your Dreams

Québec

Analysis and Planning Tables

5729

Computing Support

Training Sector

1

Administration, Commerce and Computer Technology

Formation professionnelle et technique
et formation continue

Direction générale des programmes
et du développement

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DEVELOPMENT TEAM

Claudine Dupré	Education Consultant
Rita Auger	Education Consultant
Jean-Jacques Lacombe	Teacher Commission scolaire de Montréal
Jean-François Labelle	Teacher Commission scolaire Marguerite Bourgeoys
Stéphane Lamarre	Teacher Commission scolaire Marguerite Bourgeoys
Wedad Doumar	Teacher Commission scolaire Marguerite Bourgeoys
Luc Lépine	Coordinator, Service de l'ingénierie de la formation
Thérèse Trudeau	Head, Service d'ingénierie de la formation
Anne-Marie Gohier	Coordinator, Service de l'ingénierie de la formation
Cécile Hammond	Coordinator, *Administration, Commerce and ComputerTechnology* sector Direction générale des programmes et du développement Ministère de l'Éducation
English version	Direction de la production en langue anglaise Services à la communauté anglophone Ministère de l'Éducation

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Module 14 – Networks: Access Management
Module 15 – Networks: Resource Sharing
Module 16 – Telecommunications Facilities
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Module 19 – Computer Optimization
Module 20 – Technical Support at a Telephone Help Desk
Module 21 – Practicum: Technical Support
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INTRODUCTION

This document is intended to provide support for pedagogical planning and to facilitate the work required to implement the *Computer Support* program. It may be considered an interface between the program produced by the Ministère de l'Éducation and the work carried out in vocational training centres with respect to the development of learning activities and the production of teaching and evaluation materials.

This document is designed to ensure greater consistency between the objectives of the program and the means taken to achieve them and to ensure that they have been attained. It is also intended to make it easier to integrate both formative and summative evaluation activities into the teaching and learning process. Finally, it facilitates pedagogical planning by presenting all this information in one document.

The proposed pedagogical planning strategy implies the participation of teachers in the system. While their involvement is somewhat limited in defining the main elements of pedagogical planning, they play a greater role in producing the learning activities.

To make it easier for teachers to participate in this regard and to foster a spirit of sharing where the development of learning activities is concerned, the Ministère has made this document available on the Internet, more specifically on the *Inforoute FPT* Web site. Teachers of a particular program may also use an electronic forum for presenting, sharing and consulting learning activities.

This document is divided into two main parts. Part One contains a description of the pedagogical planning model, information on the program and elements of pedagogical planning specific to the program. Part Two contains a guide on how to read the different tables and, for each module in the program, analysis and planning tables that contain details on learning and evaluation, information on the evaluation and an evaluation form.

PART ONE

PEDAGOGICAL PLANNING MODEL

The proposed pedagogical planning model is consistent with:

- the characteristics of competency-based programs
- a vision of learning that fosters the construction of competencies
- the principles of the evaluation of learning in vocational training
- the possibility of getting vocational training teachers more involved in pedagogical planning, with respect to both learning and evaluation

1 CONCEPT OF COMPETENCY

A competency is the ability to act, succeed and make progress

- that makes it possible to successfully perform occupational tasks or activities

- and that is based on an organized set of essential elements (knowledge, skills in different areas, perceptions, attitudes, etc.)

2 ELEMENTS OF THE PEDAGOGICAL PLANNING MODEL

This pedagogical planning model includes the following elements:

- a logic diagram showing the teaching sequence
- proposed pedagogical aims
- analysis and planning tables featuring:
  - learning focuses, guidelines and learning activities for each competency in a program
  - evaluation indicators and criteria together with their respective weighting, evaluation strategies, for both formative evaluation and evaluation used for certification, for each competency in a program
- information on the evaluations and evaluation forms

3 PEDAGOGICAL PLANNING PROCESS

In the pedagogical planning model used in vocational training, certain pedagogical planning elements are defined by a team composed of content specialists, a program development consultant and an evaluation consultant, while other elements are under the responsibility of the teachers of the program in question. The pedagogical planning process described below takes into account this sharing of responsibilities and consists of the following steps:

Step 1: Becoming familiar with the program
Step 2: Becoming familiar with the logic diagram showing the teaching sequence
Step 3: Becoming familiar with the proposed pedagogical aims, adapting these aims and determining ways of incorporating them into the teaching
Step 4: Becoming familiar with the information provided in the analysis and planning tables
Step 5: Determining a teaching sequence for the different learning focuses, developing learning activities and producing learning and evaluation materials
Step 6: Planning for educational materials

Step 1: Becoming familiar with the program

The pedagogical planning process should start with a careful reading of the program. Teachers will find it useful to consult all the operational objectives in order to get an overview of the competencies to be acquired.

Teachers should also spend time closely examining the grid of learning focuses in order to understand the relationships between specific and general competencies as well as the functional links shown on the grid.

In this document, a synoptic table for the program and the grid of learning focuses are found in the section "Information on the Program."

Step 2: Becoming familiar with the logic diagram showing the teaching sequence

Teachers should become familiar with the logic diagram showing the teaching sequence in order to fully understand the general order in which competencies are to be acquired, and to identify those competencies which are prerequisites to other competencies, those competencies for which there are no specific prerequisites, and those competencies that should or could be developed simultaneously.

The logic diagram showing the teaching sequence is found in the section "Elements of Pedagogical Planning."

Step 3: Becoming familiar with the proposed pedagogical aims, adapting these aims and determining ways of incorporating them into the teaching

Pedagogical aims are educational goals that are based on important values and concerns and that serve to guide activities with students in a certain direction each time an appropriate situation presents itself. These aims, which are ongoing, allow students to develop habits, attitudes or skills that have not generally been the focus of specific objectives, but which are nonetheless important.

Teachers should become familiar with the pedagogical aims proposed by the development team, adapt or enhance these aims and determine ways of incorporating them into their teaching.

The pedagogical aims are found in the section "Elements of Pedagogical Planning."

Step 4: Becoming familiar with the information provided in the analysis and planning tables

This involves reading the tables related to the program modules. Although teachers are generally responsible for only one or a few modules at most, it is important that they familiarize themselves with all the analysis and planning tables in order to fully understand how the learning focuses, guidelines, and evaluation indicators and criteria are distributed throughout the program.

A study of the analysis and planning tables presupposes a thorough understanding of the pedagogical planning model and, more particularly, of the competency acquisition process which is explained under point 4 of this section. The operational objectives, the grid of learning focuses

and the proposed pedagogical aims also help in understanding the information presented in the analysis and planning tables.

Part Two of this document presents a guide on how to read the analysis and planning tables as well as the tables themselves for each of the modules.

Step 5: Determining a teaching sequence for the different learning focuses, developing learning activities and producing learning and evaluation materials

The learning focuses are presented in the analysis and planning tables, according to the structure of the operational objective and not necessarily according to a teaching sequence. Teachers will have to establish the teaching sequence as they see fit. They will then have to develop learning activities and produce learning materials. Teachers may share their ideas for learning activities with other teachers through the electronic forum on learning activities on the *Inforoute FPT* Web site.

Teachers are to prepare learning activities by referring to the information in the analysis and planning tables (acquisition phases, learning focuses, guidelines). In this regard, teachers will find it useful to consult Table 3, *Learning Activities Involved in the Acquisition of a Competency*, and Table 4, *Training Process and Environment Involved in the Acquisition of a Competency*, both found under point 4 of this section.

As for formative evaluation, teachers will prepare materials by referring to the formative evaluation criteria in the analysis and planning tables, and will make sure that formative evaluation activities are integrated into the learning activities. In terms of evaluation for purposes of certification, teachers are required to comply with the appropriate specifications in the analysis and planning tables of the module in question, since the tables are prescriptive. Preparation of evaluation materials for certification purposes must take into account the information on the evaluation and the evaluation form which accompany the analysis and planning tables for each module.

In carrying out this step, teachers will also find it useful to consult the "Evaluation Framework" found under point 5 of this section, and the section "How to Read Analysis and Planning Tables, Information on the Evaluations and Evaluation Forms" found in Part Two of this document.

Step 6: Planning for educational materials

Teachers are required to plan for educational materials with due consideration for the specifications contained in the organizational guide. To determine the required setting or context, teachers may consult Table 4, "Training Process and Environment Involved in the Acquisition of a Competency", found under point 4 of this section.

4 PHASES INVOLVED IN ACQUIRING A COMPETENCY

In order to organize the analysis process, it is helpful to refer to the general process of competency acquisition. Five major phases lead to the acquisition of a competency:

- exploration
- basic learning
- practice
- transfer
- enrichment

The **exploration phase** is intended to highlight the relevance of the competencies to be acquired so as to increase students' motivation and facilitate learning. It can also allow students to confirm their career choice and help introduce them to the program.

The **basic learning phase** focuses on the cornerstones of the competencies, that is, all of the knowledge, skills in various areas, attitudes and perceptions that make it possible for students to adequately perform an occupational task or activity. The essence of the competency and the potential associated with that competency are developed in this phase.

The **practice phase** relates to the more "operational" dimension of the competency. The focus is on the integration of basic knowledge involved in carrying out a task or activity. During this phase, students learn how to carry out a task or activity by gradually practising the various steps involved, until they are finally able to carry out the task or activity in full, in accordance with predetermined performance standards.

The **transfer phase** refers specifically to the adaptations required to transfer and apply the competency (the basics of which have already been acquired) to a real or simulated working environment, in accordance with performance standards required for entry into the work force.

The **enrichment phase** makes it possible to occasionally go beyond the minimum performance standard when applying the competency. It may also focus on the acquisition of additional competencies.

It is important to note that the full acquisition of a competency must involve at least three of the major phases, namely basic learning, practice and transfer. Also, learning activities should ideally be preceded by activities related to the exploration phase because such activities highlight the relevance of the competencies that the students are preparing to develop and allow them to place themselves in relation to the occupation and the program. Table 1 shows the major phases involved in the competency acquisition process and emphasizes the progressive integration of learning.

Note: Although integration and transfer occur at different times in the learning process, they mainly occur during two major phases in the competency acquisition process, namely the practice and transfer phases.

The competency acquisition process has a direct impact on the choice of learning focuses, learning activities and training environments. The following tables provide information on the different choices associated with the competency acquisition phases:

- Table 2, *Learning Focuses Involved in the Acquisition of a Competency*, highlights the characteristics of the learning focuses associated with the different competency acquisition phases.

- Table 3, *Learning Activities Involved in the Acquisition of a Competency*, describes the learning activities associated with the different competency acquisition phases.

- Table 4, *Training Process and Environment Involved in the Acquisition of a Competency*, suggests possible settings for each competency acquisition phase.

Table 1: Major Phases Involved in Acquiring a Competency

Continuum of integration of learning and entry into the work force

EXPLORATION	BASIC LEARNING	PRACTICE	TRANSFER	ENRICHMENT
Career choice or introduction to the program, or motivation and getting a good start	Acquisition or development of knowledge, skills in various areas, basic perceptions and attitudes, and their integration	Integration of learning while practising occupational tasks or activities, and progression in level of performance	Application of the competency in a new context	Acquisition or development of a competency beyond the required standard
	General competency of a more basic and transferable nature			
	Specific competency focusing on the mastery of tasks			

This table provides a snapshot of the general process involved in acquiring a competency and is intended to facilitate the analysis process. In reality, this process involves movements back and forth between phases, and some reversal and combinations of activities. This process should not therefore be viewed as strictly linear or compartmentalized. In Table 4, the arrows between the major phases of the process indicate these numerous possibilities.

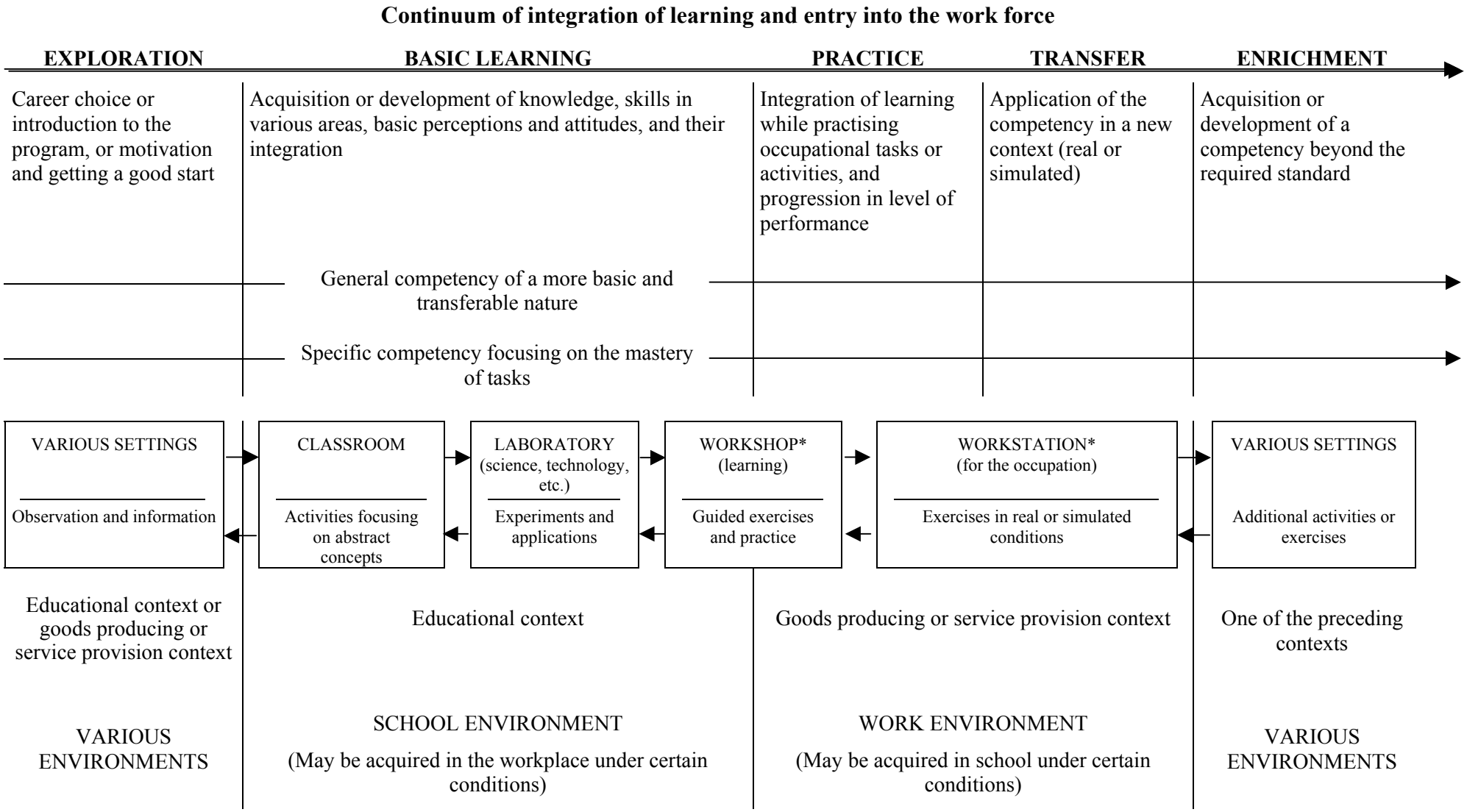
Table 2: Learning Focuses Involved in the Acquisition of a Competency

	1	2	3	4	5
PHASES	**EXPLORATION**	**BASIC LEARNING**	**PRACTICE**	**TRANSFER**	**ENRICHMENT**
CATEGORIES OF LEARNING FOCUSES	Knowledge of the environment, the requirements, etc. of the occupation and the training required (at the beginning of the program) Start of the learning process and motivation (at the beginning of a course or when learning something specific for the first time)	KNOWLEDGE: notions, principles, concepts, etc. SKILLS: gestures, movements and coordination thereof; use of tools, operation of machinery, application of knowledge, etc. PERCEPTIONS: recognition of odours, noises, colours, heat, etc.; determination of the source, cause, etc.; intuitive understanding, representation of objects, etc. ATTITUDES: general behaviours, way of being and acting, especially in terms of ethics, occupational health and safety, quality control, interpersonal relations, etc.	Performance of the occupational task or activity, progression in the level of performance and integration of basic learning (Guided activities, considerable supervision and support: relatively limited autonomy in performing the task or activity)	Application of learning in a goods producing or service provision context, including any necessary adaptations (A greater degree of autonomy in performing the task or activity)	Development of the competency beyond the required performance standard or the acquisition of new competencies (A limited amount of time allotted within the program. Additional time may be allotted, especially in the case of a work-study program.)

Table 3: Learning Activities Involved in the Acquisition of a Competency

	1	2	3	4	5
PHASES	**EXPLORATION**	**BASIC LEARNING**	**PRACTICE**	**TRANSFER**	**ENRICHMENT**
NATURE OF LEARNING ACTIVITIES	a) Observation and information activities: conferences, visits to companies and training centres; library research, etc. b) Introductory activities aimed at raising awareness of the relevance and usefulness of the learning	a) Activities involving listening, reflection, discussion, etc. b) Activities involving research, observation, analysis, etc. c) Activities involving the observation and analysis of noises, odours, etc. d) Activities involving the observation and performance of gestures, actions, etc.	a) Activities allowing for the integration of basic learning, as practice activities are introduced b) Activities that involve practising parts of tasks or activities c) Activities that involve practising a more complete task or activity	a) Adaptation activities b) Activities that involve the performance in a work environment (real or simulated conditions) of a task or activity that has essentially been learned	Various activities, depending on the competency or the part of the competency in question

Table 4: Training Process and Environment Involved in the Acquisition of a Competency



*Note: "Classroom" and "laboratory" facilities usually replace "workshop" and "workstation" in the case of nontechnical general competencies.

5 EVALUATION FRAMEWORK

5.1 General Principes

In vocational training, a few general principles guide the choice of strategies for evaluating learning.

Curriculum-based approach

In order to take into account the characteristics of competency-based programs and out of a concern for coherence, evaluation focuses on the competencies described by a program's operational objectives. The evaluation indicators and criteria in the analysis and planning tables are therefore based on elements of the operational objective. They also stem from essential elements of the competency such as the knowledge, skills, perceptions and attitudes to be acquired.

The evaluation procedure is both analytical, because it is based on an analysis of each competency of the program, and global, because it takes into account the program as a whole.

Multidimensional evaluation

Since evaluation focuses on the competency, it is crucial that all aspects of the competency be verified. Thus, the evaluation deals as much with cognitive and psychosensorimotor aspects as with affective aspects.

Criterion-referenced interpretation

According to this approach, the teacher verifies the degree to which each student has attained an objective according to the defined criteria.

Marks

In vocational training, marks are given in a dichotomous manner: students may obtain either zero or all of the marks assigned for each criterion component. For example, if criterion component 3.2 is worth 10 marks, then the teacher has a choice of only two marks: 0 or 10. The acquisition of a competency is also indicated in a dichotomous manner, that is PASS or FAIL, which is determined on the basis of a minimum performance standard or pass/fail conditions.

5.2 Evaluation Strategies

The nature of the competencies developed by a program requires varied evaluation strategies.

a) Behavioural objectives

The following may be evaluated:

- theoretical knowledge: in this case, the examination may cover the knowledge applied to the occupation and generally comprises a series of written questions

- the product: in this case, the examination focuses on the object that a student must produce and the evaluation is based on a list of requirements related to the characteristics expected of the product

- the process: in this case, the examination covers the work process that the student follows and the evaluation is carried out with reference to requirements related to the steps involved in the process

b) Situational objectives

For a situational objective, evaluation focuses on the degree to which a student participates in an activity and not his or her performance during the activity. However, students may be required to present relevant information on a given topic.

INFORMATION ON THE PROGRAM

TABLE 1

SYNOPTIC TABLE FOR THE PROGRAM OF STUDY

CODE	TITLE OF MODULE	DURATION	CREDITS[1]
962 012	1. The Occupation and the Training Process	30	2
962 025	2. Systems Analysis	75	5
962 038	3. Older Operating Systems	120	8
962 043	4. Problem Solving	45	3
962 052	5. Researching Information	30	2
962 068	6. Programming Utility Software	120	8
962 074	7. Working Relationships	60	4
962 088	8. Application Software	120	8
962 096	9. Recent Operating Systems	90	6
962 106	10. Databases	90	6
962 116	11. Installation of Workstations	90	6
962 122	12. Time Management	30	2
962 135	13. Communication in French	75	5
962 148	14. Networks: Access Management	120	8
962 157	15. Networks: Resource Sharing	105	7
962 166	16. Telecommunications Facilities	90	6
962 173	17. Career Management	45	3
962 186	18. Troubleshooting	90	6
962 194	19. Computer Optimization	60	4
962 205	20. Technical Support at a Telephone Help Desk	75	5
962 218	21. Practicum: Technical Support	120	8
962 228	22. Practicum: Service to Clients	120	8

[1] One credit is equivalent to 15 hours.

GRID OF COMPETENCIES

GRID OF LEARNING FOCUSES IN *COMPUTING SUPPORT*		FIRST-LEVEL OPER. OBJ.	DURATION (in hours)	WORK PROCESS (major steps)					GENERAL COMPETENCIES														TOTALS	
SPECIFIC COMPENTENCIES (directly related to the practice of the specific occupation)				Analyze the needs	Assess whether the request should be accepted	Do the work	Check the results and record the information	Make sure the client is satisfied	Determine their suitability for the occupation and the training process	Analyze the architecture and operation of computer systems	Exploit the possibilities of operating systems using older technology	Apply a problem-solving method	Research information	Develop a utility program	Interact in various work situations	Exploit the possibilities of application software	Exploit the possibilities of operating systems using recent technology	Create and use a database	Manage their time	Communicate in French	Exploit the possibilities of telecommunications facilities	Manage their careers	NUMBER OF OBJECTIVES	DURATION (in hours)
MODULES	MODULES								1	2	3	4	5	6	7	8	9	10	12	13	16	17		
	FIRST-LEVEL OPER. OBJ.	T							S	B	B	B	B	B	S	B	B	B	S	B	B	S	14	
	DURATION (in hours)		h						30	75	120	45	30	120	60	120	90	90	30	75	90	45		1020
11	Install the hardware and woftware of a computer	B	90	▲	△	▲	▲	△	○	●	●	●	●	○	●	●	●	●	○	○	○	○		
14	Manage access to the resources of a network	B	120	▲	▲	▲	▲	▲	○	●	●	●	●	●	●	●	●	●	●	●	○	○		
15	Install the shareable resources of a network	B	105	△	△	▲	▲	△	○	●	●	●	●	○	●	●	●	●	○	●	○	○		
18	Troubleshoot a computer problem	B	90	▲	▲	▲	▲	▲	○	●	●	●	●	○	●	●	●	●	●	●	●	○		
19	Optimize the performance of a computer	B	60	▲	▲	▲	▲	▲	○	●	●	●	●	●	●	●	●	●	●	●	●	○		
20	Provide technical support at a telephone help desk	B	75	▲	▲	▲	▲	▲	○	●	●	●	●	○	●	●	●	●	●	●	●	○		
21	Ensure the proper operation of computers in the workplace	S	120	▲	△	▲	▲	△	○	●	●	●	●	●	●	●	●	●	●	●	●	●		
22	Provide tservice to clients in the workplace	S	120	▲	▲	▲	▲	▲	○	●	●	●	●	●	●	●	●	●	●	●	●	●		
NUMBER OF OBJECTIVES		8																					22	
DURATION (in hours)			780																					1800

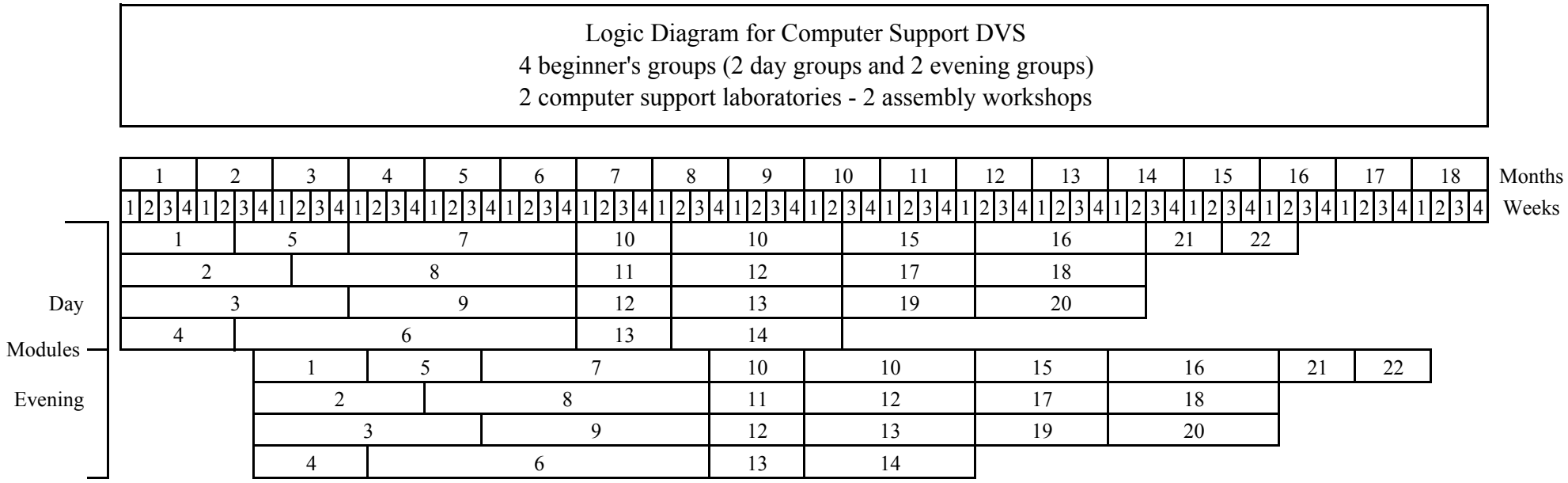
B : Behavioural objective
S : Situational objective

△ Existence of a functional link
▲ Application of a functional link — Between general and specific competencies
○ Existence of a functional link
● Application of a functional link — Between general and specific competencies

Table II

ELEMENTS OF PEDAGOGICAL PLANNING

Logic Diagram Showing the Teaching Sequence



1. The Occupation and the Training Process (30 hrs)
2. Systems Analysis (75 hrs)
3. Older operating Systems (120 hrs)
4. Problem Solving (45 hrs)
5. Researching Information (30 hrs)
6. Programming Utility Software (120 hrs)
7. Working Relationships (60 hrs)
8. Application Software (120 hrs)
9. Recent Operating Systems (90 hrs)
10. Databases (90 hrs)
11. Installation of Workstations (90 hrs)
12. Time Management (30 hrs)
13. Communication in French (75 hrs)
14. Networks : Access Management (120 hrs)
15. Networks : Resource Sharing (105 hrs)
16. Telecommunications Facilities (90 hrs)
17. Career Management (45 hrs)
18. Troubleshooting (90 hrs)
19. Computer Optimization (60 hrs)
20. Technical Support at a Telephone Help Desk (75 hrs)
21. Practicum : Technical Support (120 hrs)
22. Practicum : Service to Clients (120 hrs)

PART TWO

HOW TO READ THE ANALYSIS AND PLANNING TABLES, INFORMATION ON THE EVALUATIONS AND EVALUATION FORMS

HOW TO READ THE ANALYSIS AND PLANNING TABLES, INFORMATION ON THE EVALUATIONS AND EVALUATION FORMS

1 ANALYSIS AND PLANNING TABLES

The analysis and planning tables contain information on learning and evaluation for each module of the program.

A) LEARNING

ACQUISITION PHASE

Each competency has been analyzed by giving due consideration to the competency acquisition process presented in Part One of this document.

The tables for a behavioural objective have a *Ph* (phase) column showing the number of the phase to which the learning focus corresponds (1 to 5).

The tables for a situational objective do not contain a *Ph* column because this type of objective is structured differently.

LEARNING FOCUSES

The learning focuses refer to all the learning required of students in order to acquire and practise the competency. The learning focuses are not exhaustive and may be enriched in order to meet the specific needs of certain groups of students. The nature of the learning focuses depends on the acquisition phase of the competency with which they are associated. Table 2, *Learning Focuses Involved in the Acquisition of a Competency*, provides an overview of possible learning focuses for each phase.

These focuses are shown in the analysis and planning tables according to the structure used for the specifications of the operational objective and not necessarily according to a teaching sequence.

The learning focuses may be related to a competency as a whole or to a specification of the operational objective. They are listed separately in the analysis and planning tables for easier reference. In addition, each learning focus is accompanied by a code that makes it possible to locate it in the analysis and planning tables.

Lastly, the “Learning Focuses” column contains details on the duration of training. These time limits are expressed in percentage form as the total amount of time devoted to the learning associated with each specification and the amount of time devoted to the transfer phase.

GUIDELINES

Guidelines related to the content or field of application have been indicated for each learning focus.

This column also provides information on links with other modules or pedagogical aims.

ACTIVITIES (REFERENCES)

This blank column indicates that teachers are required to develop the learning activities themselves.

An activity should be developed for each learning focus by taking into account the defined guidelines. However, several learning focuses may be grouped together in one activity to make learning easier.

In developing learning activities, the following criteria must be respected:

- Ensure that the activity is relevant to the learning focus; will the suggested activity result in students learning what they need to learn? Some learning focuses related to the acquisition of psychomotor or socioaffective skills require learning activities in which students play a very active role.

- Vary the activities so as to spark interest and facilitate the desired learning.

- Take into account any constraints related to physical and material conditions (availability of required facilities and educational materials).

- Alternate activities where the teacher plays a more active role (such as presentations) with learning activities where the student takes the lead.

This column may also include information on written or audio-visual materials. It is important to provide a detailed description so that other teachers may consult the materials mentioned.

B) EVALUATION

The analysis and planning tables contain information on evaluation for certification purposes and on formative evaluation in order to provide for greater integration of evaluation into teaching and learning activities. Note that only the information relating to evaluation for certification purposes is prescriptive in nature.

Steps 1 to 4 below describe the nature of the information presented in the “Evaluation” section of the analysis and planning tables and the process used to ensure consistency between the program objectives and the means used to verify whether these objectives have been achieved.

Step 1: Choice of evaluation focuses for evaluation for certification purposes

The choice of evaluation focuses is based, on the one hand, on the operational objective associated with a competency and, on the other, on all the operational objectives of a program of study, so as to make the evaluation process easier. Reference to the **specifications of the expected behaviour** described in the program makes it possible to select a meaningful and representative sample of the focuses to evaluate for each competency.

This procedure ensures that the samples are representative.

Step 2: Choice of evaluation strategies

As mentioned earlier, the characteristics of the operational objective and the constraints related to the evaluation influence the choice of evaluation strategy. The suggested strategy or strategies should provide the best information possible on the learning focus being evaluated.

Step 3: Development of evaluation indicators and criteria

Evaluation indicators and criteria are defined for each of the specifications used for evaluation for certification purposes (evaluation focuses). These vary in number and their wording depends on the evaluation strategy being used.

Evaluation indicators and criteria are defined by taking into account the operational objective, and more particularly, the general and specific performance (or participation) criteria.

Each indicator presents an aspect to be evaluated or specifies the perspective from which a component of the competency is to be evaluated. The indicators are preceded by a whole number (1, 2, etc.).

These indicators are followed by criteria that describe the performance (or participation) requirements in more detail. The criteria are used to assess whether the performance (or participation) evaluated is satisfactory. The criteria used for evaluation for certification purposes are also numbered (1.1, 1.2, 1.3, etc.).

Note that the analysis and planning tables provide guidelines under the “Evaluation Indicators and Criteria” column, which makes formative evaluation easier. These guidelines are given for information purposes only. They are not accompanied by weightings or evaluation strategies. They are related to the general or specific criteria that were not used for evaluation for certification purposes.

Step 4: Determination of weightings

Each evaluation indicator is given a numerical value that indicates its relative importance in the overall measurement of performance (or participation) for a given evaluation focus.

Each evaluation criterion associated with an indicator is also weighted. The sum of the weightings assigned to each of these criteria is equal to the overall weighting assigned to the indicator.

This procedure makes it possible to highlight the relative importance of the evaluation indicators and criteria associated with an evaluation focus.

2 INFORMATION ON THE EVALUATIONS AND EVALUATION FORMS

The "Evaluation" section of the analysis and planning tables is used to write a brief description of an examination and an evaluation form so as to assist school boards in developing their examinations. It is therefore up to the teachers to use these descriptions and forms to prepare their examinations.

a) Information on the Evaluation

This is a suggested examination that meets the requirements for certification. It takes into account the evaluation criteria prescribed in the program. The objective of the examination description is to standardize the level of complexity of the examination among the various schools.

It contains:

- general information and instructions: the competency being evaluated, the suggested duration, the number of candidates that can be evaluated at the same time, etc.
- the examination procedure: a description of the task to be carried out by the candidate, the conditions for carrying out the task, suggestions for tasks, etc.
- a description of the materials needed
- special instructions: restrictions, observation times, etc.

b) Evaluation Form

The evaluation form is an instrument that specifies what the teacher needs to observe for evaluation purposes. It is designed to standardize the evaluation process.

It contains:

- general information: program title, module title, the candidate's name, the examiner's name, etc.
- the indicators and criteria selected for evaluation for certification purposes
- observation elements that further specify the observations associated with an evaluation criterion
- the number of errors allowed (tolerance) without loss of marks for a criterion component
- boxes for recording the results for the elements being observed
- a space for recording marks in a dichotomous manner
- a minimum performance standard, or pass/fail conditions, that make it easier for the teacher to reach a PASS or FAIL decision

ANALYSIS AND PLANNING TABLES
INFORMATION ON THE EVALUATIONS
EVALUATION FORMS

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1)			**Duration: 30 hours**		
Statement of the competency: ***Determine their suitability for the occupation and the training process***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: INFORMATION ON THE OCCUPATION (Block 1)				***Duration: 30%***	
1.1 Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules				
1.2 Be receptive to information regarding the occupation and the training process.	Conditions of receptivity: favourable climate, interest, concentration, physical and psychological well-being				
1.3 Be concerned about sharing their views on the occupation with the other members of the group.	Advantages of giving their point of view and listening to that of others				
1.4 Locate relevant information.	Work method: - determination of expected result of research - determination of available sources of information - preparation for identifying the important points to remember - notation of these points				
1.5 Select a note-taking method.	Note-taking method: summaries, tables, syntheses, etc.				
1.6 Explain the main rules governing proper group discussion.	Basic rules: - participation - respect of another person's turn to speak - not straying from the subject - paying attention to others - accepting different points of view				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1) **Duration: 30 hours**

Statement of the competency: ***Determine their suitability for the occupation and the training process***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.7 Learn about the job market in computing support.	Information about: - types of businesses - employment prospects - remuneration - possibilities for advancement or transfer - selection criteria		**1 Gather information on most of the topics to be dealt with.** 1.1 Gather information about at least two of the following topics - work environments (types of businesses, products) - employment prospects - remuneration - possibilities for advancement or transfer - selection criteria	30	10
1.8 Learn about the nature and the requirements of the job.	Information about: - tasks - performance criteria - working conditions - rules of professional ethics - rights and responsibilities of workers and employees		1.2 Gather information about at least two of the following topics: - tasks - performance criteria - working conditions - rules of professional ethics - rights and responsibilities of workers		10
1.9 Learn about being self-employed.	Planning a budget Remitting sales tax Writing reports Remitting advance tax payments Retaining expense receipts Liability insurance Etc.		1.3 Gather information about one of the following topics: - personal characteristics of entrepreneurs - requirements for entrepreneurship		10

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1)			**Duration: 30 hours**		
Statement of the competency: ***Determine their suitability for the occupation and the training process***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.10 Assess the possibility of starting up a business or being self-employed.	Link between the present economic situation and the field of computing support Characteristics of an entrepreneur Motivation for starting up a business Main steps involved in becoming an entrepreneur Available sources of information				
1.11 Learn about risk factors pertaining to occupational health and safety.	Risk factors related to computing support Methods to adopt to prevent work accidents and occupational diseases				
1.12 Present the information gathered and discuss their views on the occupation.	Methods of presenting information: notes, summaries, tables, syntheses, papers Advantages, disadvantages and requirements of the occupation		**2 Express their views on the occupation.** 2.1 Present, during a group discussion, at least one advantage, one disadvantage or one requirement of the occupation based on the information gathered.	15	15
PHASE 2: INFORMATION ON AND PARTICIPATION IN THE TRAINING PROGRAM (Block 2)				***Duration: 40%***	
2.1 List the skills, aptitudes, attitudes and knowledge required to practise the occupation.	Distinction between skills, aptitudes, attitudes and knowledge Search for the skills, aptitudes, attitudes and knowledge essential to working in computing support				
2.2 Describe the nature, function and content of a program of study.	Program objectives Links between modules Program development procedure				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1)			**Duration: 30 hours**		
Statement of the competency: ***Determine their suitability for the occupation and the training process***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
2.3 Learn about the training program.	Program of study Training process Evaluation methods Certification of studies				
2.4 Verify the relevance of the program to the work situation in computing support.	Links between the different competencies in the program and the actual occupation				
2.5 Discuss their initial reactions to the occupation and the training program.			**3 Give their opinions on some of the requirements that they will have to meet in order to practise the occupation.**	10	
			3.1 Give their views on the relevance of at least two requirements of the occupation (skills, attitudes or knowledge), based on a relevant argument.		10
			4 Express their views on the training program at a group meeting.	10	
			4.1 Give their views on the relevance or usefulness of at least one element of the training program, based on a relevant argument.		10
PHASE 3: EVALUATION AND CONFIRMATION OF CAREER CHOICE (Block 3)				***Duration: 30%***	
3.1 Differentiate among preferences, aptitudes and areas of interest.	Definition of terms				
3.2 Compare their preferences, aptitudes, areas of interest and personal qualities with the requirements of work in computing support.					

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1) **Duration: 30 hours**

Statement of the competency: ***Determine their suitability for the occupation and the training process***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.3 Recognize their strengths in relation to the work and the weaknesses they need to correct.	Description of their qualities and the knowledge acquired through experience Recognition of the types of problems likely to be encountered Anticipation of means of solving problems				
3.4 Present the reasons for their choice to continue or withdraw from the program.	Summary of preferences, aptitudes and areas of interest Summary of requirements of the occupation Parallels between the two above aspects Brief conclusion explaining their career choice		**5 Produce a report summing up their preferences, areas of interest, aptitudes and personal qualities, and explain their decision on whether or not to continue in the training program.** 5.1 Present at least three arguments relating their preferences, aptitudes and areas of interest with certain aspects or requirements of the occupation. 5.2 Present explanations for their career choice. **6 Discuss their career choice with the instructor.** 6.1 Participate actively in a discussion about their career choice.	25 10	 15 10 10

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

COMPUTING SUPPORT (5729)

962 012 – THE OCCUPATION AND THE TRAINING PROCESS (Module 1)

INFORMATION ON THE EVALUATION

This examination consists in evaluating the candidates' ability to determine their suitability for the occupation and the training process.

Evaluation of the candidates' participation will be based on data gathered throughout the learning activities. A final judgment should not be made until the end of the corresponding phase in the learning context.

PHASE 1: INFORMATION ON THE OCCUPATION

1 GATHER INFORMATION ON MOST OF THE TOPICS TO BE DEALT WITH

The candidate is required to produce three, one-page research reports.

1.1 The candidate must select two of the following topics: work environments, employment prospects, remuneration, possibilities for advancement and transfer, selection criteria and process.

1.2 The candidate must select two of the following topics: tasks, working conditions, performance criteria, rules of professional ethics, rights and responsibilities of workers.

1.3 The candidate must select one of the following topics: personal characteristics of entrepreneurs, requirements for entrepreneurship.

2 EXPRESS THEIR VIEWS ON THE OCCUPATION, RELATING THEM TO THE INFORMATION THEY HAVE GATHERED

2.1 At a group meeting, the candidate must present an advantage and a disadvantage of the occupation of computing support technician based on the information gathered earlier.

PHASE 2: INFORMATION ON AND PARTICIPATION IN THE TRAINING PROGRAM

3 GIVE THEIR OPINIONS ON SOME OF THE REQUIREMENTS THAT THEY WILL HAVE TO MEET IN ORDER TO PRACTISE THE OCCUPATION

3.1 At a group meeting, the candidate must discuss the relevance of two requirements of the occupation, basing his or her views on a relevant argument.

4 EXPRESS THEIR VIEWS ON THE TRAINING PROGRAM AT A GROUP MEETING

4.1 At a group meeting, the candidate must express his or her views on the relevance or usefulness of at least one element of the training program. The views must be based on a relevant argument.

PHASE 3: EVALUATION AND CONFIRMATION OF CAREER CHOICE

5 PRODUCE A REPORT

5.1 The candidate must produce a one- or two-page report describing his or her areas of interest, aptitudes and preferences.

5.2 The candidate must also provide an explanation of his or her career choice given the characteristics of the occupation. The report is to be submitted at the end of the module.

6 DISCUSS THEIR CAREER CHOICE WITH THE INSTRUCTOR

6.1 The candidate must actively participate in the discussion with the instructor.

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code: 5729
1 – The Occupation and the Training Process	Module code: 962 012
Candidate's name: _____	
School: _____	RESULT:
Permanent code: _____	PASS ☐ FAIL ☐
Date of examination: _____	
Examiner's signature: _____	

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 1: INFORMATION ON THE OCCUPATION		
1 GATHER INFORMATION ON MOST OF THE TOPICS TO BE DEALT WITH		
1.1 Gather information about at least two of the following topics: - work environments (types of businesses, products) - employment prospects - remuneration - possibilities for advancement or transfer - selection criteria	☐	☐
1.2 Gather information about at least two of the following topics: - tasks - performance criteria - working conditions - rules of professional ethics - rights and responsibilities of workers	☐	☐
1.3 Gather information about one of the following topics: - personal characteristics of entrepreneurs - requirements for entrepreneurship	☐	☐
2 EXPRESS THEIR VIEWS ON THE OCCUPATION		
2.1 Present, during a group discussion, at least one advantage, one disadvantage or one requirement of the occupation based on the information gathered.	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 2: INFORMATION ON AND PARTICIPATION IN THE TRAINING PROGRAM		
3 GIVE THEIR OPINIONS ON SOME OF THE REQUIREMENTS THAT THEY WILL HAVE TO MEET IN ORDER TO PRACTISE THE OCCUPATION		
3.1 Give their views on the relevance of at least two requirements of the occupation, based on a relevant argument	☐	☐
4 EXPRESS THEIR VIEWS ON THE TRAINING PROGRAM AT A GROUP MEETING		
4.1 Give their views on the relevance or usefulness of at least one element of the training program, based on a relevant argument	☐	☐
PHASE 3: EVALUATION AND CONFIRMATION OF CAREER CHOICE		
5 PRODUCE A REPORT		
5.1 Present at least three arguments relating their preferences, aptitudes and areas of interest with certain aspects or requirements of the occupation	☐	☐
5.2 Present explanations for their career choice	☐	☐
6 DISCUSS THEIR CAREER CHOICE WITH THE INSTRUCTOR		
6.1 Participate actively in a discussion about their career choice	☐	☐
Pass/fail conditions: 6 YESes out of a possible 9, and a YES for components 2.1 and 5.1		

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 025 – SYSTEMS ANALYSIS (Module 2) **Duration: 75 hours**

Statement of the competency: ***Analyze the architecture and operation of computer systems***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. DISTINGUISH THE INTERNAL AND EXTERNAL COMPONENTS OF COMPUTER SYSTEMS (Block 2)							***Duration: 35%***
2	A.1 Distinguish between the different types of computers.	Evolution Characteristics of different technologies and platforms Peripherals Fields in which the systems are used					
2	A.2 Recognize software and operating systems.	Recognition on the basis of their application and function: - categories of application programs - operating systems - utility programs Purpose of installation, user and reference guides					
2	A.3 Recognize and locate the internal and external components of a computer.	Function and location of internal and external components Physical links between the components English and French terms for the components		Accurate location of components Accurate identification of types of connections between components			
2	A.4 Categorize components according to their compatibility.	Internal data representation mode Information technologies and processing					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 025 – SYSTEMS ANALYSIS (Module 2) **Duration: 75 hours**

Statement of the competency: ***Analyze the architecture and operation of computer systems***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.5	Locate information about the components of a computer system.	Type of information to look for Use of sources of information					
3	**A**	**Distinguish the internal and external components of computer systems.**			**1 Recognition of a computer system**	50		
					1.1 Identification of functions of components		25	T
					1.2 Identification of operating systems and programs according to their applications and functions		15	T
					1.3 Identification of types of technologies and their compatibility		10	T
C. ANALYZE THE ORGANIZATION OF DATA IN SYSTEMS (Block 3)								***Duration: 20%***
2	C.1	Differentiate among numeration systems.	Systems: binary, decimal, octal, hexadecimal					
2	C.2	Convert data from one numeration system to another.	Conversion of binary system to decimal, octal or hexadecimal system, and vice versa					
2	C.3	Do calculations in the different numeration systems.	Additions and subtractions in the binary, decimal, octal and hexadecimal systems					
2	C.4	Distinguish between data organization methods used on storage media.	Types of media and their characteristics Formatting of media (track, sector, cylinder, etc.) File allocation table					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 025 – SYSTEMS ANALYSIS (Module 2) **Duration: 75 hours**

Statement of the competency: ***Analyze the architecture and operation of computer systems***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.5 Evaluate the capacity of storage media.	Method of calculating equivalences: bit, byte, kilobyte, megabyte, etc.					
2	C.6 Determine the visual representation of binary and hexadecimal codes.	Use of ASCII table		Accurate interpretation of data according to their: - internal representation mode - visual representation			
3	**C Analyze the organization of data in systems.**			**2 Analysis of the organization of data in systems**	30		
				2.1 Accurate evaluation of capacities of storage media		10	T
				2.2 Identification of data organization methods used on storage media		10	T
				2.3 Accurate interpretation of data according to their representation mode		10	T
B. ANALYZE DATA PROCESSING BY SYSTEMS (Block 4)							***Duration: 20%***
2	B.1 Explain the logical connection of internal components and peripherals to the computer.	Power-On Self Test process Relation between BIOS and CMOS Sector booting process Operating system and application software loading process		Identification of performance characteristics of components			
2	B.2 Recognize the types of memory organization.	Types of memory organization Location of data in memory (memory addresses, interruptions, etc.)					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 025 – SYSTEMS ANALYSIS (Module 2) **Duration: 75 hours**

Statement of the competency: ***Analyze the architecture and operation of computer systems***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**B Analyze data processing by systems.**			**3 Analysis of data processing by systems** Identification of links established between components:	20		
				3.1 when the computer is turned on		5	T
				3.2 when programs are loaded		5	T
				3.3 when data are being processed		5	T
				3.4 when the computer is turned off		5	T
ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS (Block 5)							***Duration: 10%***
3	**ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS.**			Use of appropriate terminology Effective use of reference materials Careful handling of components			
ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS (Block 6)							***Duration: 10%***
				(including evaluation for the purpose of certification)			
4	**ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS (in a real or simulated work context).**	Valid information Use of terminology		Refer to all of the above criteria for formative evaluation. Refer to weighted criteria for evaluation for the purpose of certification.			
ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS (Block 7)							
5	**ANALYZE THE ARCHITECTURE AND OPERATION OF COMPUTER SYSTEMS.**	Analysis of different platforms					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 025 – SYSTEMS ANALYSIS (Module 2)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to analyze the architecture and operation of computer systems. The suggested duration of the examination is three hours.

2 EXAMINATION PROCEDURE

This theory examination consists of seven tasks.

Task 1: Identification of functions of components (1.1)

Each candidate will be given a box containing a dozen components, including two noncomputer-related components. He or she must correctly identify eight of the components and describe their function.

The components may include RAM, ROM, a processor, a video card, a network card, a controller, a diskette, a ZIP drive, a floppy-disk drive, a hard disk, a magnetic tape, a motherboard, a coprocessor, a CD-ROM, a keyboard cable, a modem cable, an ink cartridge, a mouse, a fan, a PCMCIA card, ISA and PCI connectors, and a series or parallel cable.

Task 2: Identification of operating systems and programs (1.2)

Given four scenarios describing available hardware, a client's needs and a list of software programs and operating systems, the candidate must recommend an operating system, a specialized software program and a commercial software program for each scenario.

Task 3: Compatibility of technologies (1.3)

Given two scenarios describing a computer system, its components and a client's needs, the candidate must determine whether the modifications requested are feasible. If they are not, he or she must explain why.

Task 4: Capacities of storage media (2.1)

The candidate must fill out a table to determine the storage capacity of a hard disk, of different types of diskettes available on the market or a ZIP disk. He or she must convert the data into bits, bytes, kilobytes, megabytes, gigabytes and terabytes.

Task 5: Data organization methods used on storage media (2.2)

The candidate must explain the formatting process for the different types of magnetic media. Given a diagram of a diskette or a hard disk, he or she must indicate the location of the files as defined in a series of operations for saving and modifying files. He or she must also determine the number of sectors occupied by each file (the candidate must demonstrate that the files are not stored in adjoining sectors).

Task 6: Representation of data (2.3)

The candidate must answer five questions on binary, octal and hexadecimal modes of data representation.

Task 7: Analysis of data processing by systems (3.1 to 3.4)

For the four operations (turning on the computer, loading programs, processing data and turning off the computer), and given a list of steps in the process in no particular order, the candidate must determine the order of the steps involved.

3 MATERIALS

The use of textbooks, course notes or calculators is not permitted.

EVALUATION FORM

COMPUTING SUPPORT	Program code: 5729
Module 2 – Systems Analysis	Module code: 962 025
Candidate's name: _____	
School: _____	RESULT:
Permanent code: _____	PASS ☐ FAIL ☐
Date of examination: _____	
Examiner's signature: _____	

OBSERVATION			MARK
	YES	NO	
1 RECOGNITION OF A COMPUTER SYSTEM			
1.1 Identification of functions of components:			
- identification of a sufficient number of components	☐	☐	
- full name of components (in English and French)	☐	☐	
- purpose of components	☐	☐	
- particular characteristics of components	☐	☐	0 or 25
Error tolerance: two minor errors in the description of the purpose or particular characteristics			
1.2 Identification of operating systems and programs according to their applications and functions	☐	☐	0 or 15
Error tolerance: one error related to programs			
1.3 Identification of types of technologies and their compatibility	☐	☐	0 or 10

OBSERVATION				MARK
		YES	NO	
2	ANALYSIS OF THE ORGANIZATION OF DATA IN SYSTEMS			
2.1	Accurate evaluation of capacities of storage media	☐	☐	0 or 10
	Error tolerance: one error in the five questions			
2.2	Identification of data organization methods used on storage media	☐	☐	0 or 10
2.3	Accurate interpretation of data according to their representation mode	☐	☐	0 or 10
	Error tolerance: one error in the five questions			
3	ANALYSIS OF DATA PROCESSING BY SYSTEMS			
	Identification of links established between components:			
3.1	when the computer is turned on	☐	☐	0 or 5
3.2	when programs are loaded	☐	☐	0 or 5
3.3	when data are being processed	☐	☐	0 or 5
3.4	when the computer is turned off	☐	☐	0 or 5
	Error tolerance: one unnecessary step may be tolerated for each operation provided it does not interfere with the proper functioning of the system			
			Total:	/ 100
Minimum performance standard: 80 marks				

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY (Block 1)						***Duration: 10%***	
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
2	Observe ergonomic rules.	Work position Equipment arrangement Lighting Consequences on health of not complying with rules		Observance of ergonomic rules			
2	Apply a keyboarding method.	Arrangement of keys on the keyboard Hand position on the keyboard and finger movement		Proper positioning of fingers on the keyboard			
A. INSTALL AND UNINSTALL OPERATING SYSTEMS (Block 2)						***Duration: 25%***	
2	A.1 Distinguish between the different types of older operating systems.	Evolution Characteristics of different operating systems Fields in which the systems are used					
2	A.2 Plan the organization of a hard disk.	Characteristics of different types of partitions Partition choice and arrangement					
2	A.3 Prepare a hard disk.	Partition creation Formatting					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.4 Compare an automated installation with a customized installation.	Advantages, disadvantages and parameters of each type of installation Installation type and user's needs Procedures to follow for each type of installation					
2	A.5 Install an older operating system.	Choice of the type of installation and its parameters Application of the installation procedure Verification of the installation		Determination of appropriate parameters Proper understanding of on-screen messages			
2	A.6 Uninstall an older operating system.	Uninstallation methods and procedures Application of a procedure Verification of the uninstallation					
3	**A Install and uninstall operating systems.**			**1 Installation of an older operating system** 1.1 Correct preparation of the hard disk 1.2 Correct use of customized installation procedures **2 Uninstallation of an older operating system** 2.1 Correct use of uninstallation procedures	35 10 	 10 25 10	 PS PS PS

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
B. ADAPT SYSTEMS ACCORDING TO SPECIFIC NEEDS (Block 3)							***Duration: 15%***
2	B.1 Modify the functional parameters of an older operating system.	Memory management Installation of drivers adapted for the system Customization of the environment to meet the user's needs		Observance of criteria regarding customization of the environment			
2	B.2 Verify and optimize data on a hard disk.	Verification of data integrity Hard disk defragmentation Data compression					
3	**B Adapt systems according to specific needs.**			**3 System adaptation according to specific needs** 3.1 Correct configuration and optimization of the operating system 3.2 Correct installation of drivers, keyboards, etc. 3.3 Proper compression and defragmentation of hard disk	20	 5 10 5	 PT PT PT
C. PERFORM BASIC OPERATIONS (Block 4)							***Duration: 10%***
2	C.1 Format magnetic media.	Type of formatting Naming of magnetic media		Correct formatting of magnetic media			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.2 Manage the organization of files and directories on magnetic media.	Concept of a tree display arrangement for files and directories File operations: create, delete, copy, move, etc. Directory management					
2	C.3 Start up programs.	Definition of search paths		Starting of programs according to their place in the directory tree			
2	C.4 Make effective use of help functions and utility programs of operating systems.	Function and utility of help functions and utility programs Determination of a keyword for which to search Understanding of information received in English and French					
3	**C Perform basic operations.**			**4 Basic operations**	20		
				4.1 Proper file and directory management		15	PS
				4.2 Effective use of help functions and utility programs of operating systems		5	PS
D. PROTECT DATA (Block 5)							***Duration: 10%***
2	D.1 Recognize the importance of protecting system data.	Factors that could affect data integrity Problems caused by loss of data Computer support personnel's role in protecting data					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.2 Protect data against viruses.	Utility of antivirus software and other protection methods Choice of software Installation process and parameter adjustment Update of the virus database		Correct installation of antivirus software			
2	D.3 Disinfect magnetic media.	Precautions to take Choice and application of disinfection mode		Proper disinfection of magnetic media			
2	D.4 Determine the data backup mode.	Types of media and software for making the backup copy Evaluation of needs and choice of backup method		Creation of backup copies			
2	D.5 Back up and recover data.	Creation of backup copies according to different methods Use of different methods to recover backup files		Correct data recovery			
3	**D Protect data.**						
E. AUTOMATE TASKS (Block 6)							***Duration: 10%***
2	E.1 Recognize situations that call for task automation.	Advantages and disadvantages of automation Typical situations requiring automation					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	E.2 Create batch files and utility menus.	Design of the file or menu structure Generation of batch files and utility program menus Verification that the software functions properly and application of debugging techniques		Creation of utility menus as needed			
2	E.3 Modify batch files.	Analysis of new needs Application of corrective measures		Correct modification of existing batch files Correct application of debugging techniques			
3	**E Automate tasks.**			**5 Task automation** 5.1 Correct creation and use of batch files	15	 15	 PS
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY (Block 7)							***Duration: 5%***
2	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY.**	With an operating system and reference materials provided in French only		Correct use of commands			
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY (Block 8)							***Duration: 5%***
2	Learn the importance of working independently.	Use of newly acquired skills Tools and reference sources to use					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 038 – OLDER OPERATING SYSTEMS (Module 3) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using older technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY.**			Proper use of commands Effective use of reference materials Accurate interpretation of on-screen messages Correct positioning of fingers on keyboard Observance of ergonomic rules			
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY (Block 9)							***Duration: 5%***
4	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY.**	With an operating system and references provided in English only		Refer to all the above criteria for formative evaluation. Refer to above weighted criteria for evaluation for the purpose of certification.			
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY (Block 9)							
5	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING OLDER TECHNOLOGY.**	Installation of an operating system implementing security measures					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 038 – OLDER OPERATING SYSTEMS (Module 3)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to exploit the possibilities of operating systems using older technology. The examination has two parts. Three hours is suggested for the completion of each one. For Task 1, only half the class should be evaluated at one time. For Task 2, all candidates may be evaluated at the same time.

2 EXAMINATION PROCEDURE

This examination consists of two tasks:

Task 1: Installation and uninstallation of an older operating system (1.1, 2, 2.1)

Given a client's profile and needs with respect to software and peripherals, the candidate must install a customized operating system. The candidate must correctly apply the procedure, prepare the hard disk, understand on-screen messages, create a backup diskette and verify that the operating system works properly.

- Candidates who fail to correctly install the operating system must retake this part of the examination.

Before uninstalling an operating system, the examiner must install some data files on the candidate's computer. The candidate must then uninstall the operating system while saving the data files and drivers required to reinstall the system.

Task 2: Adaptation and use of an older operating system (3.1, 3.2, 3.3, 4.1, 4.2, 5.1)

Given a previously installed operating system and a client's profile and needs, the candidate must:

- Adapt a system to the specific needs of the client:
  - configure and optimize the operating system
  - install drivers and define keyboard parameters
  - perform hard disk compression and defragmentation

- Perform basic operations:
  - manage files and directories
  - solve a problem related to the operating system using help functions

- Automate tasks:
  - using DOS, create a start-up diskette containing a CD-ROM recognition feature

3 MATERIALS

Candidates will have access to:

- a computer
- an English or French version of an appropriate operating system
- course notes
- blank diskettes

Installation manuals are not allowed.

EVALUATION FORM

COMPUTING SUPPORT	Program code: 5729
3 – Older Operating Systems	Module code: 962 038
Candidate's name: _____	
School: _____	RESULT:
Permanent code: _____	PASS ☐ FAIL ☐
Date of examination: _____	
Examiner's signature: _____	

OBSERVATION			MARK
	YES	NO	
Task 1: INSTALLATION AND UNINSTALLATION OF AN OLDER OPERATING SYSTEM			
1 INSTALLATION OF AN OLDER OPERATING SYSTEM			
1.1 Correct preparation of the hard disk:			
- automatic start-up	☐	☐	
- appropriate partitioning	☐	☐	
- disk formatting	☐	☐	0 or 10
1.2 Correct use of customized installation procedures:			
- properly functioning operating system	☐	☐	
- observance of installation criteria	☐	☐	
- correct arrangement of operating system elements	☐	☐	
- absence of error messages	☐	☐	
- creation of a backup diskette	☐	☐	0 or 25
Error tolerance: two minor errors that do not interfere with the system operating properly			

OBSERVATION			MARK
	YES	NO	
2 UNINSTALLATION OF AN OLDER OPERATING SYSTEM			
2.1 Correct use of uninstallation procedures:			
- absence of traces of the operating system	☐	☐	
- observance of uninstallation criteria	☐	☐	
- saving of data files	☐	☐	
- saving of essential drivers	☐	☐	0 or 10
Task 2: ADAPTATION AND USE OF AN OLDER OPERATING SYSTEM			
3 SYSTEM ADAPTATION			
3.1 Correct configuration and optimization of the operating system with respect to:			
- client's needs	☐	☐	
- appropriate choice of method	☐	☐	0 or 5
3.2 Correct installation of drivers and definition of keyboard parameters:			
- correct activation of components	☐	☐	
- respect for client's needs	☐	☐	0 or 10
3.3 Proper compression and defragmentation of hard disk:			
- correct disk compression	☐	☐	
- observance of instructions	☐	☐	
- correct disk defragmentation	☐	☐	0 or 5
4 BASIC OPERATIONS			
4.1 Proper file and directory management:			
- create files	☐	☐	
- create directories	☐	☐	
- rename files	☐	☐	
- rename directories	☐	☐	

OBSERVATION			MARK
	YES	NO	
- move files	☐	☐	
- move directories	☐	☐	
- copy files	☐	☐	
- copy directories	☐	☐	
- delete files	☐	☐	
- delete directories	☐	☐	0 or 15
Error tolerance: two minor errors that do not interfere with the system operating properly			
4.2 Effective use of help functions:			
- observance of instructions	☐	☐	
- accomplishment of the goal	☐	☐	0 or 5
5 TASK AUTOMATION			
5.1 Correct creation and use of batch files:			
- observance of instructions	☐	☐	
- proper order of execution	☐	☐	
- proper functioning	☐	☐	
- memory management	☐	☐	0 or 15
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
APPLY A PROBLEM-SOLVING METHOD (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
1	Recognize how they deal with problems.	Analysis of their behaviour in problem situations Evaluation of their degree of self-confidence					
2	Learn about attitudes that favour effective problem solving.	Openness, perseverance, autonomy, creativity, etc.					
A. DEFINE THE PROBLEM (Block 2)							***Duration: 15%***
2	A.1 Describe the main steps in the problem-solving process.	Analysis of the situation Determination of the nature of the problem Formulation of: - hypotheses about the probable causes - diagnosis - potential solutions Work planning Application of corrective measures Testing and evaluation of results					
2	A.2 Formulate questions about the problem.	Types of questions to ask: source, frequency, variables Rules for formulating questions		Pertinent questions concerning the source, frequency and variables of the problem			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
		Verbalization of questions Pertinent, clear questions					
2	A.3 Recognize the importance of listening attentively to the client's answers.	Conditions of attentiveness: concentration, receptivity, etc. Elements that can alter a message					
2	A.4 Interpret information about the problem.	Distinction between objective and subjective data Assessment of the relevance of the information Importance of avoiding jumping to conclusions					
2	A.5 Write down information about the problem.	Choice of information Note-taking methods		Pertinent, ordered notes			
2	A.6 Appraise the consequences of the problem.	Criteria for assessing the seriousness of a problem					
2	A.7 Formulate the problem.	Important elements to include Description of possibilities Consideration of several possible formulations					
3	**A Define the problem.**			**1 Determination of problem** 1.1 Complete description of anomalies observed 1.2 Accurate appraisal of the consequences of the problem 1.3 Clear, concise formulation of the problem	25	 10 5 10	 T T T

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
B. EXAMINE THE PROBLEM (Block 3)							***Duration: 15%***
2	B.1 List reference materials that might be used to solve a computer problem.	Manuals, computer magazines, knowledge banks, the Internet, etc.		Effective use of reference materials			
2	B.2 Compare problems.	Nature of comparisons Identification of similarities and differences Connections with the current problem		Establishment of appropriate connections between the problem analyzed and similar situations previously experienced			
2	B.3 Prepare a list of elements to test.	Type of tests Order of tests		Correct decision on elements to be tested Logical order of elements tested			
2	B.4 Distinguish the diagnostic tools used in computing support.	Types of tools and their functions					
2	B.5 Select and use tests to determine the cause of the problem.	Choice of diagnostic tools or instruments Use of tests Evaluation of results Elimination of unlikely causes		Use of appropriate tests			
3	**B Examine the problem.**			**2 Determination of causes of problem** 2.1 Elimination of unlikely causes	10	10	T

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. FORMULATE AND TEST HYPOTHESES CONCERNING THE CAUSES OF THE PROBLEM (Block 4)						***Duration: 20%***	
2	C.1 Describe the main sources of problems encountered in computing support.	Hardware, software, users					
2	C.2 Formulate hypotheses about the probable causes of the problem.	Definition and components of a hypothesis Rules for formulating hypotheses		Pertinent hypotheses			
2	C.3 Test the hypotheses formulated.	Use of testing procedure: - collection of technical data - determination of elements to test - determination of order of tests					
2	C.4 Formulate a diagnosis.	Production of a synoptic data table Idea generation based on available information Rules for formulating a problem Formulation of several potential diagnoses		Determination of the exact cause of the problem			
2	C.5 Construct the representation of the problem.	Characteristics of representation model: flow chart, organizational chart, pseudocodes, etc. Choice and outline of a representation model Detailed description of the steps involved					
3	**C Formulate and test hypotheses concerning the causes of the problem.**			**3 Formulation and testing of hypotheses** 3.1 Clear, concise formulation of hypotheses 3.2 Use of a rigorous, logical testing procedure	30	 10 20	 T T

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
D. CHOOSE AND APPLY A SOLUTION (Block 5)								***Duration: 20%***
2	D.1	Make recommendations on the basis of the hypotheses.	Description of the desired outcome and means of achieving it		Proposal of pertinent, feasible solutions			
2	D.2	Test the feasibility of solutions.	Difference between possible solutions and the desired outcome "Mental" application of solutions Criteria for evaluating the feasibility of the proposed solutions Criticism and evaluation of solutions					
2	D.3	Plan and apply a solution.	Breakdown of the solution into steps Operations to be performed at each step Application of steps		Correct application of the solution			
3	**D**	**Choose and apply a solution.**			**4 Choice of a solution** 4.1 Choice of the most appropriate solution in terms of cost, time, etc.	25	25	T
E. VERIFY THE RESULTS (Block 6)								***Duration: 5%***
2	E.1	Verify the results.	Analysis of results Comparison of results with "ideal" situation Proposal of alternatives		Use of a rigorous, logical verification procedure			
2	E.2	Generalize the results.	Formulation of principles that may be used in future problem-solving situations					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 043 – PROBLEM SOLVING (Module 4) **Duration: 45 hours**

Statement of the competency: ***Apply a problem-solving method***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**E Verify the results.**			**5 Verification of results**	10		
				5.1 Appropriate judgment		10	T
APPLY A PROBLEM-SOLVING METHOD (Block 7)							***Duration: 10%***
2	Assess their personal problem-solving style.	Representation and analysis of their style Critical description of their "personal" style Strengths, weaknesses and possible improvements		Accurate, complete report of problem-solving process			
2	Become aware of newly acquired skills.	List of knowledge and skills					
3	**APPLY A PROBLEM-SOLVING METHOD.**			Variety of ideas Perseverance, autonomy and an open mind Accurate, complete report of problem-solving process			
APPLY A PROBLEM-SOLVING METHOD (Block 8)							***Duration: 10%***
							(including evaluation for the purpose of certification)
4	**APPLY A PROBLEM-SOLVING METHOD.**	Given problems related to computing support		Refer to all the above criteria for formative evaluation. Refer to above weighted criteria for evaluation for the purpose of certification.			
APPLY A PROBLEM-SOLVING METHOD (Block 9)							
5	**APPLY A PROBLEM-SOLVING METHOD.**	Given more complex problems					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 043 – PROBLEM SOLVING (Module 4)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to apply a problem-solving method. The examination is to be administered in class and is of a suggested length of three hours.

2 EXAMINATION PROCEDURE

This theory examination consists of three tasks.

Task 1: Definition of the problem

Given a learning context describing a problem and the explanations of the person experiencing the problem, the candidate must give a complete description of the anomalies observed (1.1); describe the problem clearly and concisely (1.3); and accurately appraise the possible short- and long-term consequences of the problem (1.2).

Task 2: Elimination of unlikely causes of the problem

Given a list of six possible causes of a problem, the candidate must identify the two that should be eliminated (2.1).

Task 3: Formulation and testing of hypotheses

Given a description of a computer system, its components and a client's needs, the candidate must:

- formulate clear, precise hypotheses about the causes of the problem using one of the representation models taught in class (3,1); use a rigorous, logical testing procedure (3.2); choose the most appropriate solution (4.1); and justify their choice of solution (5.1).

3 MATERIALS

The use of relevant manuals is permitted, but the use of course notes is not allowed.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
4 – Problem Solving	Module code:	962 043
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

	OBSERVATION	YES	NO	**MARK**
1	DETERMINATION OF PROBLEM			
1.1	Complete description of anomalies observed Error tolerance: one minor error			0 or 10
1.2	Accurate appraisal of the consequences of the problem			0 or 5
1.3	Clear, concise formulation of the problem:			
	- based on facts	☐	☐	
	- correct terminology	☐	☐	
	- clear	☐	☐	
	- concise	☐	☐	
	- correct problem	☐	☐	0 or 10
2	DETERMINATION OF CAUSES OF PROBLEM			
2.1	Elimination of unlikely causes			0 or 10
3	FORMULATION AND TESTING OF HYPOTHESES			
3.1	Clear, concise formulation of hypotheses:			
	- inclusion of all elements	☐	☐	
	- accuracy of hypotheses	☐	☐	0 or 10

OBSERVATION				MARK
		YES	NO	
3.2	Use of a rigorous, logical testing procedure			0 or 20
4	CHOICE OF A SOLUTION			
4.1	Choice of the most appropriate solution in terms of:			
	- shortest time	☐	☐	
	- lowest cost	☐	☐	0 or 25
5	VERIFICATION OF RESULTS			
5.1	Appropriate judgment			
	- consistency with hypotheses	☐	☐	0 or 10
			Total:	/ 100
Minimum performance standard: 70 marks				

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 052 – RESEARCHING INFORMATION (Module 5) **Duration: 30 hours**

Statement of the competency: ***Research information***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
RESEARCH INFORMATION (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
2	Recognize the importance of understanding English terminology.	Predominance of English in the field Use of English/French dictionaries Instructions for the creation of a computer lexicon					
2	Describe the main steps in a methodical information search.	Advantages of a methodical search Steps: - defining the purpose of the research - selecting and consulting reference materials - extracting the information - writing up the results of the research					
A. DEFINE THE PURPOSE OF THE RESEARCH (Block 2)							***Duration: 15%***
2	A.1 Formulate the goal of the research.	Understanding of need Verification and clarification of initial information First-level analysis of a research avenue					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 052 – RESEARCHING INFORMATION (Module 5) **Duration: 30 hours**

Statement of the competency: ***Research information***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.2	Determine the different aspects to be considered in the research.	Clarification of ideas: key elements, association of ideas, research strategies, etc. Demonstration of knowledge about the subject Preliminary planning of research					
3	**A**	**Define the purpose of the research.**			**1 Research problem**	20		
					1.1 Clear formulation of the goal of the research		15	PT
					1.2 Determination of the aspects to be considered in the research		5	PT
B. SELECT AND CONSULT REFERENCE MATERIALS (Block 3)							***Duration: 20%***	
2	B.1	Distinguish the sources to be consulted when researching computer information.	Printed sources: - specialized magazines - technical guides - etc. Electronic sources: - discussion group - frequently asked questions (FAQs) - data banks - the Web - etc. Resource people: - retailers - consultants - etc.					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 052 – RESEARCHING INFORMATION (Module 5) **Duration: 30 hours**

Statement of the competency: ***Research information***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.2 Select the appropriate sources for an information search.	Assessment of the validity of the sources Verification of the availability of the sources Possible levels of information for a given topic		Variety of sources selected			
2	B.3 Use research tools.	Browser, search engine Navigation functions Printing					
2	B.4 Locate information.	Speed-reading techniques: use of key words Evaluation of the relevance of the information located Creation of a list of documents to retain		Rapid location of pertinent information			
3	**B Select and consult reference materials.**			**2 Sources of information** 2.1 Rapid location of pertinent information 2.2 Selection of appropriate sources	30	15 15	PT PT
C. EXTRACT THE INFORMATION (Block 4)							***Duration: 20%***
2	C.1 Interpret technical information.	Search for the meaning of terms and information located					
2	C.2 Judge the relevance of technical information.	Demonstration of technical level of information located: general, overspecialized, etc. Evaluation of content of documents: objectivity of information, up-to-date information, etc.					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 052 – RESEARCHING INFORMATION (Module 5) **Duration: 30 hours**

Statement of the competency: ***Research information***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
		Connection with the goal of the search					
2	C.3 File information.	Filing of research results according to: - importance of content - nature of content Use of filing tools: bookmarks, favourites, cards, binders, etc.		Methodical note taking			
3	**C Extract information.**			**3 Information gathered** 3.1 Accurate interpretation of the information 3.2 Pertinent information	30	 15 15	 PT PT
D. WRITE UP THE RESULTS OF THE RESEARCH (Block 5)							***Duration: 25%***
2	D.1 Recognize the importance of applying a keyboarding method.	Review of Module 3 Keyboarding speed of 10 words per minute Accurate keyboarding		Keyboarding speed of 10 words per minute			
2	D.2 Write a research report.	Production of a plan Main idea highlighted Rules for writing reports		Use of appropriate terminology			
2	D.3 Record information.	Archiving of research results on: - storage media - paper Development of a procedure for consulting archives		Methodical recording of information Consideration of the goal and limits set for the research			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 052 – RESEARCHING INFORMATION (Module 5) **Duration: 30 hours**

Statement of the competency: ***Research information***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**D Write up the results of the research.**			**4 Research report**	20		
				4.1 Clear, concise writing		15	PT
				4.2 Methodical recording of information		5	PT
RESEARCH INFORMATION (Block 6)							***Duration: 5%***
3	**RESEARCH INFORMATION.**	Research of information on a topic using an application's online help function		Effective use of information sources Accurate interpretation of English and French terminology Autonomy and initiative Observance of ergonomic rules			
RESEARCH INFORMATION (Block 7)							***Duration: 10%***
				(including evaluation for the purpose of certification)			
4	**RESEARCH INFORMATION.**	Research of information about a given problem on the Internet		Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
RESEARCH INFORMATION (Block 8)							
5	**RESEARCH INFORMATION.**	Creation of a bank of relevant sources					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 052 – RESEARCHING INFORMATION (Module 5)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to research information. This examination is based on a research scenario and the appropriate research tools.

2 EXAMINATION PROCEDURE

This practical examination may be administered to the candidate at any time after 15 course hours. It consists of a single task which involves researching information about computer products.

Given a company's needs with respect to computer solutions, the candidate must submit a report suggesting one or more solutions to the problem. The report may be submitted in electronic format or on hard copy.

To achieve the competency, the candidate must perform the following operations:

- formulate the goal of the research
- set guidelines and determine the different aspects to be considered in the research
- select at least five appropriate sources of information
- interpret the information gathered

The candidate must also archive the sources of information consulted.

3 MATERIALS

The candidates will have access to:

- a computer
- the Internet or printed information
- course notes

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
5 – Researching Information	Module code:	962 052

Candidate's name: _____

School: _____ RESULT:

Permanent code: _____ PASS ☐ FAIL ☐

Date of examination: _____

Examiner's signature: _____

OBSERVATION	YES	NO	**MARK**
1 RESEARCH PROBLEM			
1.1 Clear formulation of the goal of the research:			
- determination of goal	☐	☐	
- identification of users	☐	☐	
- limit	☐	☐	0 or 15
1.2 Determination of the aspects to be considered in the research:			
- consideration of time available	☐	☐	
- cost of products and services	☐	☐	
- availability of products and services	☐	☐	
- existing equipment	☐	☐	
- lifetime of solution (turnkey solution)	☐	☐	0 or 5
2 SOURCES OF INFORMATION			
2.1 Rapid location of pertinent information:			
- key words	☐	☐	
- Boolean search	☐	☐	0 or 15

OBSERVATION				MARK
		YES	NO	
2.2	Selection of appropriate sources			
	- permanent sources	☐	☐	
	- credibility	☐	☐	
	- complete sources	☐	☐	
	- consistency	☐	☐	
	- number of sources	☐	☐	
	- understandable site	☐	☐	0 or 15
3	INFORMATION GATHERED			
3.1	Accurate interpretation of the information	☐	☐	0 or 15
3.2	Pertinent information:			
	- usefulness	☐	☐	
	- accessible products or services	☐	☐	
	- consideration of costs	☐	☐	
	- credibility	☐	☐	
	- timeliness	☐	☐	0 or 15
4	RESEARCH REPORT	☐	☐	
4.1	Clear, concise writing:			
	- logic	☐	☐	
	- proper formulation	☐	☐	
	- concise text	☐	☐	
	- clarity	☐	☐	
	- appropriate terminology	☐	☐	0 or 15
4.2	Methodical recording of information:			
	- methodical recording	☐	☐	
	- clear consultation procedure	☐	☐	0 or 5
			Total:	/ 100
Minimum performance standard: 80 marks				

Comments: _____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
DEVELOP A UTILITY PROGRAM (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
2	Describe the stages in the life cycle of a computer system.	Needs analysis, functional analysis, organic analysis, system development, implementation and maintenance Role of the computing support technician					
2	Describe the steps involved in programming.	Definition of program and subprogram Description and goals of steps: definition of problem, decision to purchase or develop a program, design, development, testing, debugging and documentation					
2	Recognize the importance of precision and perseverance.	Qualities sought Difficulties encountered in programming Stress factors		Attention to detail Rigorous testing of work			
B. CREATE THE ALGORITHM (Block 2)							***Duration: 15%***
2	B.1 Explain the principles underlying the creation of algorithms.	Concepts of variables, inputs, outputs, etc. Types of variables Symbols					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
		Logic structures: sequential, selective or binary, and iterative Steps in the creation of algorithms					
2	B.2 Determine an algorithmic solution to a problem.	Analysis of problem Recognition of the nature of inputs and outputs Determination of types of processing to be done Simulation of the algorithm		Algorithm in conformity with needs analysis			
2	B.3 Translate an algorithm into a flow chart and into pseudocodes.	Use of symbols: - processing and operation boxes - decision boxes - direction of processing - junctions - inputs and outputs - program start and end boxes Pseudocode syntax					
3	**B Create the algorithm.**			**1 Preliminary version of program** 1.1 Precise, structured algorithmic solution 1.2 Correct representation of the preliminary version of the program in pseudocode and/or programming flow charts	35	 20 15	 T T

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. CODE THE ALGORITHM, USING A GRAPHICAL DEVELOPMENT ENVIRONMENT (Block 3)						***Duration: 30%***	
2	C.1 Distinguish programming languages.	Distinction according to: - generation - level					
2	C.2 Describe the structural components of a program.	Parts: header, declarative part, program per se, end of program					
2	C.3 Recognize the meaning of the basic elements of a programming language.	Basic symbols: numbers or numeric characters, letters, delimiters Standard simple types: short integers, long integers, real numbers, characters, character strings, etc. Basic declarations: constants, tables, variables, functions, etc. Expressions: relational, logical and arithmetical operators Functions: arithmetic, Boolean, input/output, etc.					
2	C.4 Use a programming language editor.	Text and graphics editors Editors' environment Use of different functions					
3	C.5 Recognize the importance of making regular backups of data.	Consequences of failing to make backups		Proper saving of data			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.6 Use a programming language.	Programming in *text* and *graphics* environments Coding of an algorithm using elements of a structured programming language Writing of basic instructions: comments, assignment, input/output operations, control structures Breakdown of program: procedures, functions, subprograms, etc.		Writing of clear and concise comments concerning the operation of the program			
3	**C Code the algorithm, using a graphical development environment.**			**2 Programming rules** 2.1 Observance of rules concerning structured programming and object-oriented programming 2.2 Accurate coding of the algorithm	30	 10 20	 PT PT
D. TEST THE PROGRAM (Block 4)							***Duration: 15%***
2	D.1 Use a program testing procedure.	Simulation (by hand) of program execution Insertion of marks in program Execution of program in small sections		Proper functioning of the program			
2	D.2 Detect errors in a program.	Sources of syntax, logic and execution errors Error detection method					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6)							**Duration: 120 hours**
Statement of the competency: ***Develop a utility program***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.3 Correct errors.	Use: editor's debugging aids, online help, reference manuals, etc.		Proper correction of errors			
3	**D Test the program.**			**3 Testing of program**	25		
				3.1 Use of a methodical procedure		10	T
				3.2 Detection of all errors in syntax, logic and execution		15	T
E. DISTRIBUTE THE UTILITY PROGRAM (Block 5)							***Duration: 15%***
2	E.1 Prepare a medium for the distribution of a program.	Compilation of program Development of installation program Compression of executable program Formatting of diskettes Determination of number and content of diskettes Choice of location of files on user's computer Copy of program on diskettes Test of installation program		Compilation of the source program Proper preparation of installation diskettes			
2	E.2 Use a software distribution wizard.	Functionalities of wizard Method of use					
2	E.3 Write instructions for the installation and use of a program.	Content of instructions Rules for formulating instructions Formatting or presentation		Full, accurate instructions for installation and use of the program			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**E**	**Distribute the utility program.**						
A. ANALYZE THE NEEDS WITH REGARD TO THE DEVELOPMENT OF THE UTILITY PROGRAM (Block 6)								***Duration: 5%***
2	A.1	Specify the development needs.	Nature of data to collect: - purpose of program - type of data to be processed - type of processing to be done - program users - computer and environment Formulation of questions		Definition of the purposes and functions of the program Gathering of appropriate data concerning the needs, type of computer and environment			
2	A.2	Evaluate the feasibility of a request.	Comparison of needs with available means Availability of materials Cost effectiveness Users' knowledge and skills Computing support skills		Accurate appraisal of the possibility of meeting the request			
3	**A**	**Analyze the needs with regard to the development of the utility program.**			**4 Needs analysis** 4.1 Identification of the type of data to be processed by the program and the processing to be done	10	10	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6) **Duration: 120 hours**

Statement of the competency: ***Develop a utility program***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
DEVELOP A UTILITY PROGRAM (Block 7)							***Duration: 10%***
2	Explain the methods of organizing files on a disk.	Sequential, random and direct access modes					
3	**DEVELOP A UTILITY PROGRAM.**	Development of a utility program with results displayed on screen		Rigorous testing of work Proper functioning of the program Attention to detail Proper saving of data			
DEVELOP A UTILITY PROGRAM (Block 8)							***Duration: 5%***
				(including evaluation for the purpose of certification)			
4	**DEVELOP A UTILITY PROGRAM.**	Development of a utility program with file opening and closing on disk, and sequential, random or direct access		Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
DEVELOP A UTILITY PROGRAM (Block 9)							
5	**DEVELOP A UTILITY PROGRAM.**	Development of a utility program with on-screen display, writing to disk and use of records and tables					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 068 – PROGRAMMING UTILITY SOFTWARE (Module 6)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to develop a utility program.

The examination may be administered at the end of the module. It consists of a theory component and a practical component.

2 EXAMINATION PROCEDURE

This examination consists of two parts. The estimated length of the first part is three hours; that of the second part is undefined.

PART ONE: THEORY EXAMINATION

Task 1: Coding and testing of program (1.1, 1.2, 3.1, 3.2)

Given a company's needs with respect to software, the candidate must develop an algorithm and reproduce the algorithm using a flow chart. The flow chart must comply with instructions, the proper use of symbols, logic and the expected result.

The candidate must simulate three existing flow charts:

- simple
- complex
- incomplete

Given an existing complex program containing ten errors, the candidate must be able to locate all the errors and to correct them so that the program runs properly **(the candidate may use a computer to check the program)**.

PART TWO: PRACTICAL EXAMINATION

Task 2: Development of a utility program (4.1, 2.1, 2.2)

Given a company's needs with respect to software, the candidate must analyze the company's needs, develop a solution, and write and fully test and debug a program. The program must:

- read data
- process an indeterminate number of data
- randomly process data
- display the results on screen

The candidate must print the screen with the result, as well as a copy of the program.

This task may be completed as a project to ensure that candidates have enough time to complete it properly. We suggest that each candidate submit progress reports so that the teacher can check that the work is being done.

3 MATERIALS

The candidate will have access to:

- a computer with the appropriate software
- all the necessary reference manuals
- an object-orientated programming language

4 SPECIAL INSTRUCTIONS

To pass the examination, the candidate must attain the minimum performance standards for both tasks. Candidates who fail one of the two tasks must redo that task.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
6 – Programming Utility Software	Module code:	962 068
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	**MARK**
PART I: THEORY EXAMINATION			
TASK 1: CODING AND TESTING OF PROGRAM			
1 PRELIMINARY VERSION OF PROGRAM			
1.1 Precise, structured algorithmic solution:			
- recognition of inputs	☐	☐	
- determination of types of processing to be done	☐	☐	
- achievement of expected results	☐	☐	
- logical concatenation	☐	☐	0 or 20
1.2 Correct representation of the preliminary version of the program in pseudocode and/or programming flow charts:			
- correct use of symbols	☐	☐	
- observance of instructions	☐	☐	
- accurate coding of algorithm	☐	☐	
- proper functioning of flow chart	☐	☐	0 or 15
3 TESTING OF PROGRAM			
3.1 Use of a methodical procedure:			
- accurate result	☐	☐	
- correct traces	☐	☐	0 or 10
Error tolerance: one error			
3.2 Detection of all errors in syntax, logic and execution			0 or 15
Error tolerance: the candidate must detect and properly correct 7 out of 10 errors			
RESULT FOR PART I			**/ 60**

OBSERVATION		MARK
	YES NO	
PART II: PRACTICAL EXAMINATION		
TASK 2: DEVELOPMENT OF A UTILITY PROGRAM		
4 NEEDS ANALYSIS		
4.1 Identification of the type of data to be processed by the program and the processing to be done:		
- proper choice of types of data	☐ ☐	
- proper choice of processing	☐ ☐	
- proper choice of elements to display	☐ ☐	0 or 10
2 PROGRAMMING RULES		
2.1 Observance of rules concerning structured programming and object-oriented programming:		
- program header	☐ ☐	
- declarative part	☐ ☐	
- structured program	☐ ☐	
- appropriate choice of functions	☐ ☐	
- clear, concise comments	☐ ☐	
- appropriate choice of instructions	☐ ☐	
- logical concatenation of instructions	☐ ☐	0 or 10
Error tolerance: one minor error in the logical concatenation of instructions or in the appropriate choice of instructions		
2.2 Accurate coding of the algorithm:		
- correct syntax	☐ ☐	
- observance of logic	☐ ☐	
- no program execution errors	☐ ☐	
- result in accordance with instructions	☐ ☐	0 or 20
RESULT FOR PART II		**/ 40**

PART I	**PART II**
RESULT / 60	RESULT / 40
Minimum performance standard: 45	Minimum performance standard: 30
Pass ☐ YES ☐ NO	Pass ☐ YES ☐ NO
Minimum performance standard: successful completion of both parts	

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 074 – WORKING RELATIONSHIPS (Module 7)			**Duration: 60 hours**		
Statement of the competency: ***Interact in various work situations***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: INFORMATION ON WORK SITUATIONS ENCOUNTERED IN COMPUTING SUPPORT (Block 1)				***Duration: 20%***	
1.1 Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules				
1.2 Develop an awareness of the main difficulties encountered in working relationships in computing support.	Relationships with superiors, colleagues, clients Level of language Recognition of their limitations: technical knowledge, personality, etc. Attentive and observant attitude: - observance of health and safety rules - tact and discretion, professional confidentiality - positive behaviour - full, clear and precise communication - interest in new work experiences - concern for excellence - sense of productivity Application during practicum				
1.3 Recognize the importance of good communication skills in establishing good working relationships.	Possibilities and limitations of the various types of communication: in person, on the telephone, through electronic means, etc. Conditions favouring good working relationships				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 074 – WORKING RELATIONSHIPS (Module 7)			**Duration: 60 hours**		
Statement of the competency: ***Interact in various work situations***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.4 Discuss how they interact with others.	Reflection on situations in their personal and working lives Recognition of their strengths and weaknesses: patience, tact, etc.		**1 Discuss the characteristics of professional situations.** Give their opinions in discussions. 1.1 Describe their style of interacting with others.	20	 20
PHASE 2: FAMILIARIZATION WITH SERVICE TO CLIENTS (Block 2)					***Duration: 30%***
2.1 Distinguish the types of clientele encountered in computing support.	Characteristics of types of clientele Means of identifying the type of clientele: attentiveness, observation, information search				
2.2 Recognize clients' anxieties and needs.	Interpretation of verbal and nonverbal language Type of questions used to determine needs				
2.3 Identify ways of alleviating clients' stress.	Appropriate environment Professional attitude: tone of voice, neat personal appearance, interpersonal skills, etc.				
2.4 Implement a client-based approach.	Courtesy Personalized service Effectiveness		**2 Familiarize themselves with service to clients.** 2.1 Follow the instructions for trying out an approach for providing courteous service to clients.	5	 5

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 074 – WORKING RELATIONSHIPS (Module 7)			**Duration: 60 hours**		
Statement of the competency: ***Interact in various work situations***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 3: APPLICATION OF THE RULES OF PROFESSIONAL ETHICS (Block 3)			***Duration: 25%***		
3.1 Interpret standards and rules that apply to work situations.	Standards and rules concerning the use of equipment, responsibilities, etc.		**3 Apply the rules of professional ethics.** 3.1 Gather and organize data on the standards and rules that apply to the use of computers.	10	5
3.2 Explain the consequences of the violation of copyright.	Reason for copyright laws Content of a user's licence Consequence: seizure of equipment, loss of productivity, loss of good name, etc.				
3.3 Distinguish ways of pirating software.	Techniques used Distribution methods Protective measures				
3.4 Examine procedures to prevent abuse of equipment.	Role, content and means of applying procedures to prevent abuse of equipment Hardware and software tools				
3.5 Prepare an activity to educate clients to observe standards and rules.	Development of an activity Means of disseminating information: seminars, the Internet, releases, etc.		3.2 Prepare an activity in which the rules of professional ethics are applied.		5
3.6 Consider ways of dealing with clients who fail to observe standards and rules.	Role of the computing support technician in the application of standards and rules Attitudes to adopt				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 074 – WORKING RELATIONSHIPS (Module 7)			**Duration: 60 hours**		
Statement of the competency: ***Interact in various work situations***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 4: PARTICIPATION IN A WORK TEAM (Block 4)					***Duration: 20%***
4.1 Recognize the impact of communication on the quality of teamwork.	Qualities of good communication Types of personalities encountered in a work team: sociable, analytical, leader, humanistic		**4 Participate in a work team.** 4.1 Follow the instructions for trying out working in a team. 4.2 State the attitudes and behaviour that contribute to the effective functioning of a work team.	25	 5 20
4.2 Describe attitudes and behaviour that contribute to the effective functioning of a work team.	Identification of common objectives Openness, positive attitude, constructive attitude, etc.				
4.3 Divide tasks among team members.	Identification of strengths of team members Respect for others				
4.4 Convey ideas to team members.	Information sharing Adopting a position Means of defusing tense situations				
PHASE 5: EVALUATION OF THEIR INTERACTION IN VARIOUS WORK SITUATIONS (Block 5)					***Duration: 5%***
5.1 Assess the strengths and weaknesses in their ways of interacting with clients.	Self-knowledge Elements requiring improvement Focus on strengths		**5 Evaluate their interaction.** 5.1 State their strengths and weaknesses in dealing with clients and participating in a work team.	40	 20
5.2 Assess their strengths and weaknesses in communicating with colleagues and superiors.	Self-knowledge Elements requiring improvement Focus on strengths Consideration of established hierarchy				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 074 – WORKING RELATIONSHIPS (Module 7)			**Duration: 60 hours**		
Statement of the competency: ***Interact in various work situations***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
5.3 Determine how they could improve with respect to service to clients and teamwork.	Seminars, lectures, resource people, etc.				
5.4 Discuss ways of managing tense situations.	Attitudes to adopt Use of relaxation methods Reminder of the responsibilities of each person		5.2 Discuss their reaction to stress and ways of managing it.		20
5.5 Make a list of the skills they have acquired in this module.	List of learning acquired in this module				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

COMPUTING SUPPORT (5729)

962 074 – WORKING RELATIONSHIPS (Module 7)

INFORMATION ON THE EVALUATION

This examination consists in evaluating the candidates' ability to interact in various work situations.

Evaluation of the candidates' participation will be based on data gathered throughout the learning activities. A final judgment should not be made until the end of the corresponding phase in the learning context. The candidate will do a self-evaluation at the end of the module.

PHASE 1: INFORMATION ON WORK SITUATIONS ENCOUNTERED IN COMPUTING SUPPORT

1.1 DESCRIBE THEIR STYLE OF INTERACTING WITH OTHERS

On the basis of personal or work-related experiences, the candidate must briefly describe his or her style of interacting with others (colleagues, superiors, teachers, clients) in a given situation.

PHASE 2: FAMILIARIZATION WITH SERVICE TO CLIENTS

2.1 FOLLOW THE INSTRUCTIONS FOR TRYING OUT AN APPROACH FOR PROVIDING COURTEOUS SERVICE TO CLIENTS

In simulated meetings with clients, the candidate must emphasize courtesy, attentiveness, observation, the search for information, tone of voice and interpersonal skills.

PHASE 3: APPLICATION OF THE RULES OF PROFESSIONAL ETHICS

3.1 GATHER AND ORGANIZE DATA ON THE STANDARDS AND RULES THAT APPLY TO THE USE OF COMPUTERS

3.2 PREPARE AN ACTIVITY IN WHICH THE RULES OF PROFESSIONAL ETHICS ARE APPLIED

In preparation for a discussion about the role of computer support technicians in the application of standards and rules, each candidate will be assigned the task of collecting some of the necessary information. The candidates must create a memo board to be submitted to the examiner at the end of the discussion.

During this activity, it is important to clearly indicate the type of data that the candidates are to gather and present at the group meeting.

PHASE 4: PARTICIPATION IN A WORK TEAM

4.1 FOLLOW THE INSTRUCTIONS FOR TRYING OUT WORKING IN A TEAM

4.2 STATE THE ATTITUDES AND BEHAVIOUR THAT CONTRIBUTE TO THE EFFECTIVE FUNCTIONING OF A WORK TEAM

Given scenarios involving relationships with colleagues and superiors, the candidate must:

- participate in the formation of a work team and divide the tasks among team members
- give his or her opinion on certain topics
- discuss attitudes and behaviour that contribute to the effective functioning of a work team

PHASE 5: EVALUATION OF THEIR INTERACTION IN VARIOUS WORK SITUATIONS

5.1 STATE THEIR STRENGTHS AND WEAKNESSES IN DEALING WITH CLIENTS AND PARTICIPATING IN A WORK TEAM

5.2 DISCUSS THEIR REACTION TO STRESS AND WAYS OF MANAGING IT

During an individual meeting, the candidate must discuss his or her strengths and weaknesses in dealing with clients and participating in a work team. In addition, he or she must discuss his or her reaction to stress and ways of better managing it.

The candidate must participate actively in the discussion.

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
7 – Working Relationships	Module code:	962 074
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 1: INFORMATION ON WORK SITUATIONS ENCOUNTERED IN COMPUTING SUPPORT		
1.1 Describe their style of interacting with others	☐	☐
PHASE 2: FAMILIARIZATION WITH SERVICE TO CLIENTS		
2.1 Follow the instructions for trying out an approach for providing courteous service to clients	☐	☐
PHASE 3: APPLICATION OF THE RULES OF PROFESSIONAL ETHICS		
3.1 Gather and organize data on the standards and rules that apply to the use of computers	☐	☐
3.2 Prepare an activity in which the rules of professional ethics are applied	☐	☐
PHASE 4: PARTICIPATION IN A WORK TEAM		
4.1 Follow the instructions for trying out working in a team	☐	☐
4.2 State the attitudes and behaviour that contribute to the effective functioning of a work team	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 5: EVALUATION OF THEIR INTERACTION IN VARIOUS WORK SITUATIONS		
5.1 State their strengths and weaknesses in dealing with clients and participating in a work team	☐	☐
5.2 Discuss their reaction to stress and ways of managing it	☐	☐
Pass/fail conditions: 6 YESes out of a possible 8, and a YES for components 1.1, 4.2, 5.1 and 5.2		

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 088 – APPLICATION SOFTWARE (Module 8) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of application software***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE (Block 1)							***Duration: 2%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
2	Apply a keyboarding method.	Review of Module 3 Keyboarding speed of 20 words per minute					
A. EXAMINE THE CAPABILITIES OF COMPUTER PROGRAMS (Block 2)							***Duration: 15%***
2	A.1 Distinguish the major families of software programs.	Word processing, spreadsheet, presentation, layout, database, data management, etc.					
2	A.2 Recognize the similar functions in different software programs.	Different versions: upgrading Similarity: toolbars, menus, help function, interface, terms used, etc.		Identification of similar functions: - in programs in the same families - in programs from different families - in different versions of programs			
2	A.3 Recognize the particular characteristics of each software program.	Differences among software programs: toolbars, menus, help function, interface, terms used, etc.		Demonstration of the specific features of each program			
2	A.4 Determine a user's needs.	Formulation of questions about the nature of the task, skills, etc.					
2	A.5 Select the most appropriate software program for a given task.	Strengths, weaknesses and complexity of a software program User communities: small and medium-size businesses, large businesses, self-employed workers, private individuals, etc.		Selection of the most appropriate program for a specific task			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 088 – APPLICATION SOFTWARE (Module 8)							**Duration: 120 hours**
Statement of the competency: ***Exploit the possibilities of application software***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**A Examine the capabilities of computer programs.**						
B. INSTALL AND UNINSTALL SOFTWARE (Block 3)							***Duration: 30%***
2	B.1 Interpret information on the hardware configuration required to install a software program.	Location of information Terms used Industry standards: distinction between minimum and recommended configuration		Accurate interpretation of information on the minimum configuration required for the installation			
2	B.2 Recognize the importance of respecting copyright laws.	Review of Module 7					
2	B.3 Test the components of a computer system.	Identification of characteristics of components: visual inspection and use of a utility program Type of tests to be done Comparison of data measured with required configuration					
2	B.4 Determine the components of the software to be installed.	Consideration of client, type of work and available disk space Choice of components to be installed					
2	B.5 Apply the procedure for installing a software program.	Choice of type of installation: standard, complete, customized, server or local Interpretation of messages Use of references Testing of functioning		Proper use of procedures for standard, complete and customized installation			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 088 – APPLICATION SOFTWARE (Module 8) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of application software***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.6 Solve installation problems.	Common problems, causes and solutions Attitude to adopt					
2	B.7 Apply the procedure for uninstalling a software program.	Uninstallation methods and procedures Application of a procedure Testing of uninstallation		Proper use of uninstallation procedures			
3	**B Install and uninstall software.**			**1 Installation of software** 1.1 Complete verification of elements of the computer system to ensure they comply with installation requirements 1.2 Proper use of procedures for customized installation 1.3 Consideration of the needs involved 1.4 Efficient solution of conflicts	30	 10 10 5 5	 PS PS PS PS
C. RESEARCH AND PROPOSE PROCEDURES FOR USING PROGRAMS (Block 4)						***Duration: 13%***	
2	C.1 Use the help functions of application software.	Functioning of online help Information search Verification of relevance of information		Selection of pertinent information			
2	C.2 Prepare instructions for using software.	Basic rules of writing Written or verbal transmission					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 088 – APPLICATION SOFTWARE (Module 8) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of application software***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.3 Convert files from one program to another.	Application of conversion procedures: from one version to another, from one program to another					
3	**C Research and propose procedures for using programs.**			**2 Use of software**	45		
				2.1 Conversion of files from one program to another		15	PS
				2.2 Preparation of clear, concise instructions for using functions		15	PS
				2.3 Proper use of functions		15	PS
D. AUTOMATE TASKS (Block 5)							***Duration: 10%***
2	D.1 Describe the purpose of a macro.	Possible macros: most frequent operations, combination of several commands, simplified access, automation of a series of tasks, etc.					
2	D.2 Create macros.	Needs analysis Determination of steps in the command Use of tools for creating macros Ways of making the command accessible					
2	D.3 Test macros.	Running of macros Detection of errors Editing and correction of macros		Proper recording and running of macros Detection and correction of errors			
3	**D Automate tasks.**			**3 Task automation**	15		
				3.1 Creation of macros based on user needs		15	PS

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 088 – APPLICATION SOFTWARE (Module 8) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of application software***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
E. CUSTOMIZE PROGRAM INTERFACES (Block 6)							***Duration: 10%***
2	E.1 Set preferences.	Possible types of options and functions Modification of default parameters		Proper setting of preferences and print manager			
2	E.2 Configure the print manager.	Choice of different print options: paper size, orientation, number of copies, resolution, etc.					
2	E.3 Adapt menus and toolbars to user needs.	Criteria for the efficient organization of menus and toolbars Consideration of user's needs Procedures for making changes					
3	**E Customize program interfaces.**			**4 Customization of interface** 4.1 Adaptation of menus and toolbars to user needs	10	10	PS
EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE (Block 7)							***Duration: 10%***
3	**EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE.**	Given English desktop publishing software		Methodical work Effective navigation in user interfaces Optimal use of software help functions and other reference materials Accurate interpretation of on-screen messages Keyboarding speed of 20 words per minute Observance of ergonomic rules			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 088 – APPLICATION SOFTWARE (Module 8) **Duration: 120 hours**

Statement of the competency: ***Exploit the possibilities of application software***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE (Block 8)							***Duration: 10%***
							(including evaluation for the purpose of certification)
4	**EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE.**	Given French spreadsheet software		Refer to all the above criteria for formative evaluation. Refer to above weighted criteria for evaluation for the purpose of certification.			
EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE (Block 9)							
5	**EXPLOIT THE POSSIBILITIES OF APPLICATION SOFTWARE.**	Given an English program suite					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 088 – APPLICATION SOFTWARE (Module 8)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to exploit the possibilities of application software. The examination has two parts. A three-hour time limit is suggested for the completion of each one.

2 EXAMINATION PROCEDURE

This examination consists of two tasks.

Task 1: Installation of an application program (1.1, 1.2, 1.3, 1.4)

Given a client's needs and profile with respect to software, the candidate must do a customized installation of an application program. He or she must:

- test the system components
- correctly apply the procedure for installing another application program
- solve conflicts efficiently
- take the client's needs into account

Candidates who fail to correctly install the application program must redo Task 1 before going on to Task 2.

Task 2: Adaptation and use of an application program (2.1, 2.2, 2.3, 3.1, 4.1)

Given previously installed application programs and a client's needs and profile, the candidate must solve five problems encountered by users with respect to three application programs. The candidate must:

- convert files from one program to another
- prepare instructions for converting files
- create a macro
- adapt a menu and a toolbar to the client's needs

3 MATERIALS

The candidates will have access to:

- a computer
- the English or French version of an application program
- course notes

The use of installation manuals is not permitted.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
8 – Application Software	Module code:	962 088
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	MARK
TASK 1: INSTALLATION OF AN APPLICATION PROGRAM			
1 INSTALLATION OF SOFTWARE			
1.1 Complete verification of elements of the computer system to ensure they comply with installation requirements:			
- available space	☐	☐	
- minimum power required	☐	☐	
- operating system	☐	☐	0 or 10
1.2 Proper use of procedures for customized installation:			
- complete installation	☐	☐	
- customized installation	☐	☐	0 or 10
1.3 Consideration of the needs involved:			
- previous experience	☐	☐	
- language of use	☐	☐	
- printer selection	☐	☐	0 or 5
1.4 Efficient solution of conflicts			0 or 5

OBSERVATION			MARK
		YES NO	
TASK 2:	**ADAPTATION AND USE OF AN APPLICATION PROGRAM**		
2	USE OF SOFTWARE		
2.1	Conversion of files from one program to another		0 or 15
2.2	Preparation of clear, concise instructions for using functions		0 or 15
2.3	Proper use of functions Error tolerance: one error in five questions		0 or 15
3	TASK AUTOMATION		
3.1	Creation of macros based on user needs: - proper functioning	☐ ☐	0 or 15
4	CUSTOMIZATION OF INTERFACE		
4.1	Adaptation of menus and toolbars to user needs		0 or 10
		Total:	/ 100

Minimum performance standard: 80 marks

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 096 – RECENT OPERATING SYSTEMS (Module 9) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
2	Observe ergonomic rules.	Work position Equipment arrangement Lighting Health consequences of not complying with rules		Observance of ergonomic rules			
2	Apply a keyboarding method.						
A. INSTALL AND UNINSTALL OPERATING SYSTEMS (Block 2)							***Duration: 20%***
2	A.1 Compare recent operating systems with older technology.	Improvements made Technologies used Advantages and disadvantages Hardware required					
2	A.2 Distinguish between the different types of recent operating systems.	Evolution Characteristics of different operating systems Fields in which the systems are used					
2	A.3 Plan the organization of a hard disk in a configuration of 32 bits or more.	Characteristics of the different types of partitions Partition choice and arrangement					
2	A.4 Prepare a hard disk in a configuration of 32 bits or more.	Partition creation Formatting					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 096 – RECENT OPERATING SYSTEMS (Module 9) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.5	Prepare the components necessary for the installation of an operating system.	Access to installation software: CD-ROM drive, network connection, etc.		Determination of appropriate parameters			
2	A.6	Install a recent operating system.	Use of knowledge and skills developed using older operating systems Interpretation of new instructions Application of the installation procedure Verification of the installation					
2	A.7	Compare the procedure for uninstalling a recent system with the procedure for uninstalling an older system.	Comparison of steps and complexity					
2	A.8	Uninstall an older operating system.	Uninstallation methods and procedures Application of a procedure Verification of the uninstallation		Correct use of uninstallation procedure			
3	**A**	**Install and uninstall operating systems.**			**1 Installation of a recent operating system** 1.1 Proper preparation of hard disk 1.2 Correct use of customized installation procedures	15	 5 10	 PS PS
B. ADAPT SYSTEMS ACCORDING TO SPECIFIC NEEDS (Block 3)								***Duration: 20%***
2	B.1	Optimize the memory of a recent operating system.	Aims of optimization: optimal operation of software, utility programs, etc.					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 096 – RECENT OPERATING SYSTEMS (Module 9) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.2 Modify the operating parameters of a recent operating system.	Installation of system device drivers: video card, sound card, motherboard, etc. Adaptation of operating parameters to user's needs		Detection and effective solution of conflicts Observance of criteria regarding customization of the environment			
2	B.3 Recognize the utilities specific to recent operating systems.	Utilities for optimizing the hard disk: data control, defragmentation and compression		Proper compression and defragmentation of hard disk			
3	**B Adapt systems according to specific needs.**			**2 System adaptation according to specific needs** 2.1 Correct configuration of files needed for initialization of operating systems in terms of: - memory management - installation of drivers, keyboards, etc.	15	15	PT
C. PERFORM BASIC OPERATIONS (Block 4)							***Duration: 15%***
2	C.1 Format magnetic media.	Media other than diskettes Type of formatting Naming of magnetic media		Correct formatting of magnetic media			
2	C.2 Manage the organization of files and directories.	See Module 3.					
2	C.3 Facilitate the starting of programs.	Creation of grouping of elements: executables, shortcuts, aliases, etc.		Starting of programs according to their place in the directory tree			
2	C.4 Compare the help functions and utilities of a recent operating system with those of an older system.	Identification of differences Interpretation of information obtained in English and French					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 096 – RECENT OPERATING SYSTEMS (Module 9) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.5 Use the help functions and utility programs of recent operating systems.	See Module 3.					
3	**C Perform basic operations.**			**3 Basic operations**	30		
				3.1 Correct formatting of magnetic media		5	PT
				3.2 Proper file and directory management techniques		10	PT
				3.3 Effective use of help functions		5	PT
				3.4 Effective use of utility programs of operating systems		10	PT
D. PROTECT DATA (Block 5)							***Duration: 10%***
2	D.1 Protect data against viruses.	See Module 3.		Correct installation of antivirus software Proper disinfection of magnetic media			
2	D.2 Recognize the backup modes associated with recent operating systems.	Types of media and software for making the backup copy: digital tape backup units, cartridge backup units, CD-rewritables, etc. Technological developments					
2	D.3 Back up and recover data in a recent operating system.	Evaluation of needs and choice of backup method Creation of backup copies according to different methods: manual or automatic Use of different methods to recover backup files		Correct recovery from backup files			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 096 – RECENT OPERATING SYSTEMS (Module 9)								**Duration: 90 hours**
Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***								
COMPETENCY		**LEARNING**		**EVALUATION**				
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**		**W_I**	**W_C**	**St**
2	D.4 Implement system strategies.	Creation of user profiles Restricted access Protection of data						
3	**D Protect data.**			**4**	**Protection of data**	30		
				4.1	Correct recovery from backup files		10	PT
				4.2	Implementation of appropriate system strategies		15	PT
				4.3	Correct installation of antivirus software		5	PT
E. AUTOMATE TASKS (Block 6)								***Duration: 10%***
2	E.1 Create batch files and utility menus.	Design of the macro or script structure Generation of macros and scripts Verification that the software functions properly and application of debugging techniques		Creation of utility menus according to the needs Proper use of debugging techniques				
2	E.2 Modify batch files.	See Module 3.		Proper modification of existing batch files				
3	**E Automate tasks.**			**5**	**Task automation**	10		
				5.1	Correct creation and use of batch files		10	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 096 – RECENT OPERATING SYSTEMS (Module 9) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of operating systems using recent technology***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY (Block 7)							***Duration: 10%***
2	Learn the importance of working independently.	Use of newly acquired skills Tools and reference sources to use					
3	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY.**	**Default** installation of operating system with references provided in French only		Proper use of commands Effective use of reference materials Accurate interpretation of on-screen messages Observance of ergonomic rules			
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY (Block 8)							***Duration: 10%***
				(including evaluation for the purpose of certification)			
4	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY.**	**Customized** installation of an operating system with references provided in English only		Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY (Block 9)							
5	**EXPLOIT THE POSSIBILITIES OF OPERATING SYSTEMS USING RECENT TECHNOLOGY.**	Installation of a different operating system and application of manufacturer's corrections					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 096 – RECENT OPERATING SYSTEMS (Module 9)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to exploit the possibilities of an operating system using recent technology. The examination consists of two tasks and a three-hour time limit is suggested for the completion of each one. Task I is to be administered to half the class at once. Task 2 may be administered to the entire class at once.

2 EXAMINATION PROCEDURE

This practical examination consists of two tasks:

Task 1: Installation of a recent operating system (1.1, 1.2)

Given a client's profile and needs with respect to software and peripherals, the candidate must do a customized installation of an operating system. He or she must correctly apply the procedure, prepare the hard disk, ensure that the CD-ROM drive is accessible, understand on-screen messages, create a backup diskette and verify that the operating system is functioning properly.

- Candidates who fail to correctly install the operating system must redo this part of the examination.

Task 2: Adaptation and use of a recent operating system

Given a previously installed operating system and a client's profile and needs, the candidate must:

- configure and optimize the operating system:
  - manage RAM
  - install drivers and define modem and video card parameters

- perform basic operations:
  - format a magnetic medium other than a diskette
  - manage files and directories
  - solve a problem related to the operating system using help functions

- protect data:
  - recover data from a backup unit
  - implement system strategies
  - install antivirus software

- automate tasks:
  - create and run batch files

3 MATERIALS

The candidates will have access to:

- a computer
- an English or French version of an appropriate operating system
- course notes
- blank diskettes
- an external backup unit
- antivirus software

The use of installation manuals is not permitted.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
9 – Recent Operating Systems	Module code:	962 096
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	MARK
TASK 1: INSTALLATION OF A RECENT OPERATING SYSTEM			
1 INSTALLATION OF A RECENT OPERATING SYSTEM			
1.1 Proper preparation of hard disk:			
- automatic start-up	☐	☐	
- creation of multiple partitions	☐	☐	
- preparation of the components necessary for the installation	☐	☐	
- detection of CD-ROM drive	☐	☐	0 or 5
1.2 Correct use of customized installation procedures:			
- properly functioning operating system	☐	☐	
- observance of installation criteria	☐	☐	
- correct arrangement of operating system elements	☐	☐	
- absence of error messages	☐	☐	
- creation of a backup diskette	☐	☐	0 or 10

OBSERVATION			MARK
	YES	NO	
TASK 2: ADAPTATION AND USE OF A RECENT OPERATING SYSTEM			
2 SYSTEM ADAPTATION ACCORDING TO SPECIFIC NEEDS			
2.1 Correct configuration of files needed for initialization of operating systems in terms of:			
- memory management	☐	☐	
- client's needs	☐	☐	
- appropriate choice of method	☐	☐	
- correct configuration of components and peripherals	☐	☐	0 or 15
3 BASIC OPERATIONS			
3.1 Correct formatting of magnetic media:			
- naming of media	☐	☐	
- proper functioning	☐	☐	0 or 5
3.2 Proper file and directory management techniques:			
- create files	☐	☐	
- create directories	☐	☐	
- rename files	☐	☐	
- rename directories	☐	☐	
- move files	☐	☐	
- move directories	☐	☐	
- copy files	☐	☐	
- copy directories	☐	☐	
- delete files	☐	☐	
- delete directories	☐	☐	0 or 10
3.3 Effective use of help functions of operating systems:			
- observance of instructions	☐	☐	
- achievement of objective	☐	☐	0 or 5
3.4 Effective use of utility programs of operating systems			0 or 10

OBSERVATION			MARK
	YES	NO	
4 PROTECTION OF DATA			
4.1 Correct recovery from backup files:			
- appropriate selection of data	☐	☐	
- relevant choice of parameters	☐	☐	
- relevant choice of method	☐	☐	
- recovery of the correct data	☐	☐	
- data restored to the correct location	☐	☐	0 or 10
4.2 Implementation of appropriate system strategies:			
- user profiles	☐	☐	
- data protection	☐	☐	
- reliability of strategy	☐	☐	
- consistency of choices	☐	☐	0 or 15
4.3 Correct installation of antivirus software			0 or 5
5 TASK AUTOMATION			
5.1 Correct creation and use of batch files:			
- observance of instructions	☐	☐	
- proper order of execution	☐	☐	
- proper functioning	☐	☐	0 or 10
		Total:	/ 100

Pass/fail conditions: Candidates who are no longer able to access the system must retake the exam.
Minimum performance standard: 80 marks

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
CREATE AND USE A DATABASE (Block 1)							
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. ANALYZE THE NEEDS (Block 2)							***Duration: 5%***
2	A.1 Describe the characteristics of databases and databanks.	Databases and databanks: - definition - aims - updating - data integrity - professional ethics - standardization - cost and advantages - examples					
2	A.2 Distinguish the types of databases.	Hierarchical Relational Object-oriented					
2	A.3 List the possible uses of a database.	Various lists: - support: inventory (hardware and software) - user: clients, suppliers, products		Recognition of the nature of the data to be handled			
2	A.4 Identify the relationships between databases and other types of software.	Word processing Spreadsheet Accounting					
2	A.5 Recognize the importance of standardized data.	Single structure Relational structure Type of data to be processed					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.6	Collect and record data for inputting.	Note taking		Proper collection of data for inputting			
3	**A**	**Create and use a database.**			**1 Client's needs** 1.1 Determination of needs	15	 15	PT
B. DESIGN THE DATABASE (Block 3)								***Duration: 20%***
2	B.1	Structure and standardize data.	Choice of data Determination of fields and links to be made Choice of type and dimensions Definition of field properties Choice of file name and usable characters Implementation of security measures		Implementation of security measures appropriate to the needs Standardization of data			
2	B.2	Create a structure for tables, forms and reports.	Creation procedure Need to comply with planning Forms and queries Report format		Design of a functional structure			
2	B.3	Test the functioning of the database.	Links between tasks Printing Interpretation of messages		Testing of proper functioning of database			
3	**B**	**Design the database.**			**2 Design of database** 2.1 Design of a functional database	15	 15	 PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. PROCESS THE DATA (Block 4)							***Duration: 30%***
2	C.1 Input the data.	Keyboarding method Keyboarding speed of 30 words per minute Uniformity (capital letters, punctuation, order of entry, shortcut keys) Use of help menu Need for consistent fields Accurate data Data backup		Optimal use of possibilities for: - display of data - consultation - querying - sorting - indexing - extraction Keyboarding speed of 30 words per minute			
2	C.2 Create and adapt forms.	Definition of use of form					
2	C.3 Make queries.	Choice of type of query Definition of criteria Creation of a multitable query					
2	C.4 Produce reports and labels.	Calculation and statistics functions Production of reports Appropriate choice of paper size Printing		Proper use of calculation and statistics functions			
2	C.5 Create macros.	Purpose of macros Needs analysis Tools for creating macros Running of macros Editing and correction of macro					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**C Process the data.**			**3 Data processing**	55		
				3.1 Proper production of reports on screen		10	PT
				3.2 Proper production of reports on paper		10	PT
				3.3 Addition, deletion and modification of data as required		5	PT
				3.4 Proper importing and exporting of data		10	PT
				3.5 Optimal use of possibilities		20	PT
D. ADAPT THE STRUCTURE OF THE DATABASE TO NEW NEEDS (Block 5)							***Duration: 10%***
2	D.1 Identify new needs.	Questions Analysis					
2	D.2 Analyze the existing structure in terms of the new need.	Standardization (consistency) Links Fields Indexing Etc.		Data integrity			
2	D.3 Modify elements as required.	Structure Needs		Modification of elements as required			
2	D.4 Optimize performance.	Automation of start-up Redundancy Multifield indexing		Testing of proper functioning of database			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.5 Customize the interface.	Toolbar Menu bar Contextual menus Source code control Use of macros					
3	**D Adapt the structure of the database to new needs.**			**4 Database customization**	15		
				4.1 Optimization of functioning of database		5	PT
				4.2 Proper customization of user interface		10	PT
E. DOCUMENT THE DATABASE (Block 6)							***Duration: 10%***
2	E.1 Produce a reference manual.	Support: - organizational structure User: - instructions - interface model - glossary		Preparation of complete system specifications Writing of complete, accurate instructions for use of the database Use of appropriate terminology			
3	**E Document the database.**						
CREATE AND USE A DATABASE (Block 7)							***Duration: 10%***
2	Recognize the importance of quality.	Quality criteria Efficiency					
2	Use documentation.	Online Paper Multimedia (English and French)					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 106 – DATABASES (Module 10) **Duration: 90 hours**

Statement of the competency: ***Create and use a database***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	Adapt to specific conditions.	Incompatibility Structure variations					
3	**Create and use a database.**	Incompatibility Structure variations		Methodical work Effective navigation in user interfaces Optimal use of software help functions and other reference materials Accurate interpretation of on-screen messages Correct saving of data Observance of ergonomic rules			
CREATE AND USE A DATABASE (Block 8)				***Duration: 15%*** **(including evaluation for the purpose of certification)**			
4	**CREATE AND USE A DATABASE.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 106 – DATABASES (Module 10)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to create and use a database. The examination consists of two practical tasks.

2 EXAMINATION PROCEDURE

It is suggested that the candidates be given two three-hour periods for the practical examination. The examination may be administered to several candidates at once.

The examination consists of two tasks.

Task 1: Creation of a database (1.1, 2.1)

Given a client's needs with respect to a database, the candidate must:

- determine the client's needs
- standardize the fields
- create a functional database

The database could comprise five items in three categories, three different sizes and two suppliers, as well as a description of the report to be produced.

Task 2: Use of a database (3.1 to 4.2)

Given a database and a learning context describing changes requested by the client, the candidate must:

- import data
- produce a report using the database
- add, delete and modify data
- import and export data
- create a functional macro
- optimize the performance of the database
- customize the user interface
- print a report
- produce a data input form

3 MATERIALS

Candidates will have access to:

- a computer
- an application program
- a help program
- the appropriate tools and equipment

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
10 – Databases	Module code:	962 106
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	**MARK**
TASK 1: CREATION OF A DATABASE			
1 CLIENT'S NEEDS			
1.1 Determination of needs:			
- data to be entered	☐	☐	
- use of database	☐	☐	
- fields to be created	☐	☐	
- mathematical operation	☐	☐	
- data protection	☐	☐	0 or 15
2 DESIGN OF DATABASE			
2.1 Design of a functional database:			
- observance of field names	☐	☐	
- standardization	☐	☐	
- display	☐	☐	
- indexing	☐	☐	0 or 15

OBSERVATION	YES	NO	MARK
TASK 2: USE OF A DATABASE			
3 DATA PROCESSING			
3.1 Proper production of reports on screen:			
- observance of needs	☐	☐	
- inclusion of all elements	☐	☐	0 or 10
Error tolerance: two minor errors that do not interfere with the system operating properly			
3.2 Proper production of reports on paper			0 or 10
3.3 Addition, deletion and modification of data as required:			
- addition	☐	☐	
- deletion	☐	☐	
- modification	☐	☐	
- proper functioning	☐	☐	0 or 5
Error tolerance: two minor errors that do not interfere with the system operating properly			
3.4 Proper importing and exporting of data:			
- observance of needs	☐	☐	
- inclusion of all elements	☐	☐	
- proper functioning	☐	☐	0 or 10
Error tolerance: two errors that do not interfere with the system operating properly			
3.5 Optimal use of possibilities:			
- querying	☐	☐	
- extraction	☐	☐	
- sorting	☐	☐	0 or 20

OBSERVATION			MARK
	YES	NO	
4 DATABASE CUSTOMIZATION			
4.1 Optimization of functioning of database:			
- observance of needs	☐	☐	
- inclusion of all elements	☐	☐	
- proper functioning	☐	☐	0 or 5
4.2 Proper customization of user interface:			
- toolbar	☐	☐	
- menu bar	☐	☐	
- contextual menus	☐	☐	
- automation of functions	☐	☐	0 or 10
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11) **Duration: 90 hours**

Statement of the competency: ***Install the hardware and software of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER (Block 1)							
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. PLAN THE WORK (Block 2)							***Duration: 5%***
2	A.1 Assess the needs.	Questioning of client Consistency between expectations and components of the system to be installed Actual condition of the workstation		Accurate assessment of needs			
2	A.2 Choose the necessary components for the installation.	Technology used Operating system Drivers Versions					
2	A.3 Establish the steps in the assembly sequence.	Assembly of hardware and connection of peripherals Installation of application software Testing of results and saving of data on work done Formulation of recommendations about the use of the hardware					
3	**A Plan the work.**			**1 Organization of work** 1.1 Correct selection of components 1.2 Logical assembly sequence	20	 10 10	 PT PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11) **Duration: 90 hours**

Statement of the competency: ***Install the hardware and software of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
B. ASSEMBLE THE HARDWARE COMPONENTS OF THE COMPUTER AND CONNECT THE PERIPHERALS (Block 3)						***Duration: 40%***	
2	B.1 Establish the main assembly sequences for the components.	Installation and organization of workspace Unpacking of components and reference manuals Review of Module 2 Start-up		Correct assembly sequence			
2	B.2 Install and organize the work space.	Ergonomic installation Choice of tools		Methodical organization of workspace			
2	B.3 Assemble the components.	Use of tools and reference manuals Concern for rules of handling Concern for safety rules Insertion of components Solid assembly of components Consistency of technologies used		Assembly of appropriate components Correct placement of components Solid assembly Careful handling of parts Use of appropriate tools Observance of safety rules			
2	B.4 Configure the components and peripherals.	This learning focus will follow the installation of the operating system. Installation of mouse and internal components					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11)							**Duration: 90 hours**
Statement of the competency: ***Install the hardware and software of a computer***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**B Assemble the hardware components of the computer and connect the peripherals.**			**2 Assembly of components and peripherals**	30		
				2.1 Correct configuration of components and peripherals		15	PT
				2.2 Observance of assembly techniques		15	PS
C. INSTALL THE OPERATING SYSTEMS (Block 4)							***Duration: 15%***
2	C.1 Partition and format the hard disk.	Choice of operating system Preparation of disk in accordance with installation procedures Questioning of client as to needs Use of partitioning and formatting tools (diskette, CD-ROM) Review of Module 9		Proper partitioning and formatting of hard disk			
2	C.2 Install and tune the drivers.	Distinction between operating system driver and manufacturer's driver		Installation procedures as per manufacturers' instructions Proper installation and tuning of drivers			
2	C.3 Study the problem.	Review of Module 4, B					
2	C.4 Configure and customize the system.	Operating system Peripherals Compliance with client's needs					
3	**C Install the operating systems.**			**3 Installation of an operating system**	20		
				3.1 Solution of conflicts between components		10	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11) **Duration: 90 hours**

Statement of the competency: ***Install the hardware and software of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
				3.2 Configuration and customization of systems as needed		10	PT
D. INSTALL APPLICATION SOFTWARE (Block 5)						***Duration: 15%***	
2	D.1 Question the client.	Technology Version Work habits Choice of application software					
2	D.2 Check the installation procedures.	Manufacturer's instructions Review of Modules 8 and 10		Installation procedures as per manufacturer's instructions			
2	D.3 Configure and customize the application software.	Questioning of client Adaptation of parameters: - desktop - toolbar - start-up - etc.					
3	**D Install application software.**			**4 Adaptation of software** 4.1 Configuration and customization of software as needed	10	10	PT
E. TEST THE RESULTS AND SAVE DATA ON WORK DONE (Block 6)						***Duration: 5%***	
2	E.1 Test the functioning of the workstation.	Operating system vs. hardware Problem solving Client satisfaction		Proper testing of functioning of workstation			
2	E.2 Update the inventory.	Review of Module 10					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11)							**Duration: 90 hours**
Statement of the competency: ***Install the hardware and software of a computer***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	E.3 Save data on work done.	Installation, problems and solutions Paper Electronic Entry in knowledge bank Use of computer terminology		Use of correct English and computer terminology			
3	**E Test the results and save data on work done.**			**5 Saving of data on work done** 5.1 Updating of inventory 5.2 Full, accurate entry in knowledge bank of: - details of the installation - problems encountered - solutions applied - clarity - pertinence of recommendations	20	 10 10	 PT PT
F. MAKE RECOMMENDATIONS CONCERNING THE USE OF THE EQUIPMENT (Block 7)							***Duration: 5%***
2	F.1 Make recommendations.	Use of equipment in accordance with manufacturer's standards and recommendations Pertinent, clear, simple recommendations Use of the application's help menu Use of computer terminology Determination of client's understanding		Pertinent, clear, simple recommendations Use of correct English and computer terminology			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11) **Duration: 90 hours**

Statement of the competency: ***Install the hardware and software of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	F.2 Follow up with the client.	Ability to use the system Satisfaction with customization					
3	**F Make recommendations concerning the use of the equipment.**						
INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER (Block 8)							***Duration: 5%***
2	Recognize the importance of quality.	Quality criteria Efficiency Compliance with client's expectations					
2	Use documentation.	Online Paper Multimedia (English and French)					
2	Adapt to special conditions.	Incompatibility Structure variations					
3	**INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER.**			Proper functioning of workstation Methodical work Effective use of reference material Observance of professional ethics Observance of schedule targets			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11)							**Duration: 90 hours**
Statement of the competency: ***Install the hardware and software of a computer***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER (Block 9)							***Duration: 10%***
							(including evaluation for the purpose of certification)
2	Install a second operating system on the same workstation.	Choice of systems Validation of needs Identification of the advantages of such an operation					
4	**INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER (Block10)							
5	**INSTALL THE HARDWARE AND SOFTWARE OF A COMPUTER.**						

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 116 – INSTALLATION OF WORKSTATIONS (Module 11)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This evaluation consists in evaluating the candidates' ability to install the hardware and software of a computer. The examination consists of a practical task and a theory examination:

Task 1: Preparation of a bid
Task 2: Installation of a workstation

2 EXAMINATION PROCEDURE

A time limit of three hours is suggested for Task 1. The examination may be administered to several candidates at once. The theory examination is to be administered at the examiner's convenience. The task involved could take about three hours to complete.

Task 1: Preparation of a bid (1.1, 1.2)

This task is to be performed at home at any time after completion of 60 course hours.

Given a client's needs with respect to a workstation, a component inventory and a price list, the candidate must prepare a bid containing the components that best meet the client's needs and budget.

Task 2: Installation of a workstation (2.1 to 5.2)

Given a client's needs with respect to a workstation and the equipment provided, the candidate must install hardware and software on a computer workstation, and perform the following operations:

- install the components according to the established assembly sequence
- connect the peripherals
- install an operating system
- configure the components and peripherals (hardware and BIOS, before installing the operating system)
- solve conflicts between components
- configure and customize the system as needed
- install application software
- configure and customize the software as needed
- update the inventory (provided by the examiner)
- enter the information in a knowledge bank or form (provided by the examiner)

3 MATERIALS

For Task 2, candidates will have access to:

- a computer
- a varied choice of all the appropriate components
- data sheets for the components
- installation manuals
- an operating system
- application software
- a knowledge bank
- the appropriate tools and equipment

EVALUATION FORM

COMPUTING SOFTWARE	Program code:	5729
11 – Installation of Workstations	Module code:	962 116
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION			**RESULT**
	YES	NO	
TASK 1: PREPARATION OF A BID			
1 ORGANIZATION OF WORK			
1.1 Correct selection of components:			
- compatibility of components	☐	☐	
- conformity with learning context	☐	☐	
- observance of budget	☐	☐	0 or 10
Error tolerance: two minor errors that do not interfere with the proper functioning of the computer; the budget may be exceeded by 15%.			
1.2 Logical assembly sequence			
- presence of all the assembly steps	☐	☐	
- logical sequence	☐	☐	
- appropriate terminology	☐	☐	0 or 10
Error tolerance: two minor errors			

OBSERVATION	YES	NO	RESULT
TASK 2: INSTALLATION OF A WORKSTATION			
2 ASSEMBLY OF COMPONENTS AND PERIPHERALS			
2.1 Correct configuration of components and peripherals:			
- microprocessor speed	☐	☐	
- memory integrity	☐	☐	
- insertion of video card	☐	☐	
- declaration of hard disk	☐	☐	
- partitioning and formatting of hard disk	☐	☐	
- absence of error messages	☐	☐	
- BIOS configuration	☐	☐	0 or 15
2.2 Observance of assembly techniques:			
- careful and appropriate assembly	☐	☐	
- appropriate choice of screws and tools	☐	☐	
- proper handling of components	☐	☐	
- correct placement of components	☐	☐	
- observance of safety rules	☐	☐	0 or 15
3 INSTALLATION OF AN OPERATING SYSTEM			
3.1 Solution of conflicts between components:			
- absence of conflicts	☐	☐	
- proper drivers	☐	☐	0 or 10
Tolerance: two minor conflicts that do not interfere with the proper functioning of the system			
3.2 Configuration and customization of systems as needed:			
- proper functioning of operating system	☐	☐	
- observance of installation criteria	☐	☐	
- correct arrangement of elements of the operating system	☐	☐	
- absence of error messages	☐	☐	0 or 10
Tolerance: two minor errors that do not interfere with the proper functioning of the system			

OBSERVATION			RESULT
	YES	NO	
4 ADAPTATION OF SOFTWARE			
4.1 Configuration and customization of software as needed:			
- proper functioning of application software	☐	☐	
- observance of installation criteria	☐	☐	
- correct arrangement of elements of application software	☐	☐	
- absence of error messages	☐	☐	0 or 10
Error tolerance: two minor errors that do not interfere with the proper functioning of the system			
5 SAVING OF DATA ON WORK DONE			
5.1 Updating of inventory:			
- inclusion of all elements	☐	☐	
- relevance of elements	☐	☐	
- backup and printing	☐	☐	0 or 10
5.2 Full, accurate entry in knowledge bank of:			
- details of the installation	☐	☐	
- problems encountered	☐	☐	
- solutions applied	☐	☐	
- clarity	☐	☐	
- pertinence of recommendations	☐	☐	0 or 10
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 122 – TIME MANAGEMENT (Module 12) **Duration: 30 hours**

Statement of the competency: ***Manage their time***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: INFORMATION ON THE PRINCIPLES OF TIME MANAGEMENT (Block 1)				***Duration: 20%***	
1.1 Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules				
1.2 Learn about the value of time.	Accurate needs assessment Time estimates Speed Respect for client/user				
1.3 Explain the factors responsible for difficulties in time management.	Positive and negative behaviours Information Available equipment Accessibility				
1.4 Describe the personal qualities needed for effective time management.	List of initiatives Demonstration of resourcefulness				
1.5 Recognize the importance of categorizing activities.	Determination of performance level Activity duration and deadline Complexity of activities Priorities Categories of tasks				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 122 – TIME MANAGEMENT (Module 12) **Duration: 30 hours**

Statement of the competency: ***Manage their time***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.6 Learn about methods and tools for categorizing activities.	Short term: - work plan Long term: - agenda - critical path (PERT) - time management software - project plan		**1 Learn about the principles of time management.** 1.1 Gather information, using sources made available.	25	5
1.7 Recognize the importance of proper planning and the consequences of poor time management.	Time saved Concentration of tasks, avoiding dispersion Improved quality of work Availability and accessibility of data on work done Personal satisfaction Analysis of the importance of the elements of a situation Recognition of their limits		1.2 Describe at least three advantages of effective time management.		20
PHASE 2: EXAMINATION OF THEIR CURRENT USE OF TIME (Block 2)					***Duration: 20%***
2.1 Make a list of their main personal activities.	Social Family		**2 Examine how they currently use their time.**	5	
2.2 Assess their use of time at work.	Tasks: - daily - weekly - monthly		2.1 Evaluate their satisfaction with their main personal activities.		5

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 122 – TIME MANAGEMENT (Module 12) **Duration: 30 hours**

Statement of the competency: ***Manage their time***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
2.3 Be concerned about sharing their perception of the usefulness of their activities.	Advantages of sharing their point of view Advantages of listening to others' point of view Analysis of their activity profile: - type of activity - objectives - urgency - priorities		Make a list of their main personal activities.		
2.4 List their strengths and weaknesses with respect to time management.	Means of compensating for their weaknesses List of their: - skills - objectives				
PHASE 3: EXAMINATION OF HOW COMPUTING SUPPORT PERSONNEL USE THEIR TIME (Block 3)					***Duration: 20%***
3.1 Describe the activities.	Receiving and analyzing the request Diagnosing the problem Solving the problem Forwarding the request and ensuring follow-up Processing change requests – hardware and software Directly assisting the user Closing the file Performing preventive maintenance on systems Keeping up-to-date		**3 Examination of how computing support personnel use their time.** Make a list of the main activities in computing support.	10	

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 122 – TIME MANAGEMENT (Module 12)			**Duration: 30 hours**		
Statement of the competency: ***Manage their time***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.2 Learn about time-consuming activities that have an effect on time planning.	Determine the causes of lost time Identify their effects on the organization Seek solutions to overcome obstacles				
3.3 Discuss the main obstacles encountered.					
3.4 Discuss ways to overcome them.			3.1 Give their opinions on ways to manage their tasks effectively in computing support.		10
PHASE 4: FAMILIARIZATION WITH METHODS AND TOOLS FOR TIME MANAGEMENT (Block 4)				***Duration: 20%***	
4.1 Analyze the importance of requests and prioritize them.	User/client List of activities Level of importance of priorities Objectives Emergencies		**4 Familiarize themselves with methods and tools for time management.**	20	
4.2 Determine the activities that may be carried out by others.	Type of activity Criteria for selecting people to carry out the activities		Participate seriously in the activities.		
4.3 Use time-management tools.	Agendas Time-management software		4.1 Use the tools provided.		20
4.4 Explain the use of planning tools.	Use of planning and control tools Tool (PERT)				

962 122 – TIME MANAGEMENT (Module 12) **Duration: 30 hours**

Statement of the competency: ***Manage their time***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 5: EVALUATION OF METHODS FOR TIME MANAGEMENT (Block 5)					***Duration: 20%***
5.1 Think about their ability to assess the importance of a situation.	Request Priority		**5 Evaluation of methods for time management.** 5.1 Assess their ways of managing time.	40	20
5.2 Consider the request in terms of their duties.	Analysis of request Extent and limits of their responsibilities				
5.3 Recognize the strengths that make their work easier and the weaknesses to be improved.	Demonstration of their qualities and the knowledge acquired in finding the solution Recognition of the types of problems they are likely to encounter Anticipation of means of reducing the impact of problems				
5.4 Choose appropriate time-management techniques.	Agenda PERT Time-management software		5.2 Propose realistic ways to manage their time more effectively.		20
5.5 Assess the impact that reflective thinking has on the practice of the occupation.	Habits Attitudes Perception				

COMPUTING SUPPORT (5729)

962 122 – TIME MANAGEMENT (Module 12)

INFORMATION ON THE EVALUATION

The purpose of this examination is to evaluate the candidates' ability to manage their time. Evaluation of the candidates' participation will be based on data gathered throughout the learning activities. A final judgment should not be made until the end of the corresponding phase in the learning context.

PHASE 1: INFORMATION ON THE PRINCIPLES OF TIME MANAGEMENT

1.1 GATHER INFORMATION, USING SOURCES MADE AVAILABLE

Given information and references provided in class, the candidate must gather information on ways to manage his or her time more effectively. In addition, he or she must submit a one-page text that explains how organization tools can help achieve this goal.

1.2 DESCRIBE AT LEAST THREE ADVANTAGES OF EFFECTIVE TIME MANAGEMENT

The text should also outline at least three advantages of effective time management.

PHASE 2: EXAMINATION OF THEIR CURRENT USE OF TIME

2.1 EVALUATE THEIR SATISFACTION WITH THEIR MAIN PERSONAL ACTIVITIES

The candidate must assess his or her use of personal time, taking into account all of his or her main social and family activities. The candidate must determine whether he or she is satisfied with this management of time. The candidate must submit a one-page text.

PHASE 3: EXAMINATION OF HOW COMPUTING SUPPORT PERSONNEL USE THEIR TIME

3.1 GIVE THEIR OPINIONS ON WAYS TO MANAGE THEIR TASKS IN COMPUTING SUPPORT

During a group discussion, the candidate must give an opinion on ways to effectively manage computing support tasks. During the week preceding the discussion, the candidate will have been informed of the items he or she will be asked to comment on (3.1).

PHASE 4: FAMILIARIZATION WITH METHODS AND TOOLS FOR TIME MANAGEMENT

4.1 USE THE TOOLS PROVIDED

Given a learning context, the candidate must use the tools provided to maximize his or her performance (daily, weekly or monthly priorities). The report is to be submitted at the end of the module.

PHASE 5: EVALUATION OF METHODS FOR TIME MANAGEMENT

5.1 ASSESS THEIR WAYS OF MANAGING TIME

Using word-processing software, the candidate must write a one-page text assessing his or her ways of managing time.

5.2 PROPOSE REALISTIC WAYS TO MANAGE THEIR TIME MORE EFFECTIVELY

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
12 – Time Management	Module code:	962 122
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

PARTICIPATION COMPONENTS	**RESULT YES**	**NO**
PHASE 1: INFORMATION ON THE PRINCIPLES OF TIME MANAGEMENT		
1.1 Gather information, using sources made available	☐	☐
1.2 Describe at least three advantages of effective time management	☐	☐
PHASE 2: EXAMINATION OF THEIR CURRENT USE OF TIME		
2.1 Evaluate their satisfaction with their main personal activities	☐	☐
PHASE 3: EXAMINATION OF HOW COMPUTING SUPPORT PERSONNEL USE THEIR TIME		
3.1 Give their opinions on ways to manage their tasks effectively in computing support	☐	☐
PHASE 4: FAMILIARIZATION WITH METHODS AND TOOLS FOR TIME MANAGEMENT		
4.1 Use the tools provided	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 5: EVALUATION OF METHODS FOR TIME MANAGEMENT		
5.1 Assess their ways of managing time	☐	☐
5.2 Propose realistic ways to manage their time more effectively	☐	☐
Pass/fail conditions: 5 YESes out of a possible 7, and a YES for components 1.2, 4.1, 5.1 and 5.2		

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 135 – COMMUNICATION IN FRENCH (Module 13) **Duration: 75 hours**

Statement of the competency: ***Communicate in French***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
COMMUNICATE IN FRENCH (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. HANDLE REQUESTS FROM CLIENTS (Block 2)							***Duration: 30%***
2	A.1 Interpret the request.	Support Equipment Software					
2	A.2 Question the client further.	Telephone requests Requests in person Clear questions Interpretation of key words and general ideas Types of questions used to determine needs Review of Module 7		Proper verification of client's understanding			
2	A.3 Distinguish approaches in English and French.	Level of language (tu/vous) Observance of conventions		Level of language appropriate to the client			
2	A.4 Demonstrate professionalism and the ability to listen.	Climate of confidence Patience Reformulation Appropriate language					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 135 – COMMUNICATION IN FRENCH (Module 13) **Duration: 75 hours**

Statement of the competency: ***Communicate in French***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.5 Apply telephone etiquette.	Identification of the company Personal identification Receiving and forwarding of calls Establishment of communications		Observance of conventions Proper telephone procedure			
2	A.6 Provide explanations.	Clarity Conciseness Coherence		Clear speech			
2	A.7 Terminate the interview.	Observance of etiquette Transfer to a resource person Filling out of form					
3	**A Handle requests from clients.**			**1 Handling of requests from clients** 1.1 Accurate interpretation of request 1.2 Clear, pertinent questions concerning details of the work needed 1.3 Clear, concise, coherent explanations	45	 15 15 15	 PS PS PS
B. WRITE DOCUMENTS RELATED TO COMPUTING SUPPORT (Block 3)							***Duration: 30%***
2	B.1 Use models.	Notes Instructions Reports					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 135 – COMMUNICATION IN FRENCH (Module 13) **Duration: 75 hours**

Statement of the competency: ***Communicate in French***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.2 Determine the parts of the document and the body of the text.	Addressee Address Subject Signature					
2	B.3 Obtain the documents needed to plan the document.	Electronic documents French knowledge bank					
2	B.4 Produce the document plan.	Analysis of situation Main and secondary idea Use of appropriate vocabulary					
2	B.5 Write and enter the text.	Spelling and grammar rules Conformity of text with plan		Correct spelling and grammar Keyboarding speed of 30 words per minute			
2	B.6 Correct the text.	Editing of text Use of spelling and grammar checker Verification of formatting Saving and printing Transmission		Level of language appropriate to the client			
3	**B Write documents related to computing support.**			**2 Writing of document** 2.1 Clear, concise, coherent writing 2.2 Use of appropriate key words in knowledge bank	20	 10 10	 PS PS

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 135 – COMMUNICATION IN FRENCH (Module 13)				**Duration: 75 hours**			
Statement of the competency: ***Communicate in French***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. OBTAIN INFORMATION FROM SUPPLIERS AND MANUFACTURERS (Block 4)						***Duration: 20%***	
2	C.1 Establish a procedure for requesting information.	Collection of information related to the request Establishment of communication Identification of company and representative Inclusion of all information Review of Module 7					
2	C.2 Interpret suppliers' and manufacturers' answers.	Note taking Questions about availability of components and software Verification of compatibility Reformulation of answers					
2	C.3 Interpret technical documentation.	Review of Module 5 Location of information Abbreviations Acronyms					
2	C.4 Provide explanations.	Clarity Conciseness Coherence		Clarity of speech			
2	C.5 End the interview.	Observance of etiquette Transfer to a resource person Filling out of form		Respect for the proprieties			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 135 – COMMUNICATION IN FRENCH (Module 13) **Duration: 75 hours**

Statement of the competency: ***Communicate in French***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**C Obtain information from suppliers and manufacturers.**			**3 Preparation of bid**	35		
				3.1 Clear requests to suppliers		15	PS
				3.2 Accurate interpretation of suppliers' answers		10	PS
				3.3 Accurate interpretation of technical documentation		10	PS
COMMUNICATE IN FRENCH (Block 5)							***Duration: 5%***
3	**COMMUNICATE IN FRENCH.**			Effective use of reference materials Use of appropriate terminology			
COMMUNICATE IN FRENCH (Block 6)							***Duration : 10%*** ***(Including evaluation for the purpose of certification)***
4	**COMMUNICATE IN FRENCH.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
COMMUNICATE IN FRENCH (Block 7)							
5	**COMMUNICATE IN FRENCH.**	Complex projects that exceed entry-level requirements					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 135 – COMMUNICATION IN FRENCH (Module 13)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This evaluation consists in evaluating the candidates' ability to communicate in French.

2 EXAMINATION PROCEDURE

The examination consists of three tasks. The suggested time limit for the first task is 10 minutes and the task is done individually with the examiner, who plays the role of the client. For the other tasks, all the candidates can be evaluated at once. The suggested time limit for tasks 2 and 3 is three hours in all.

Task 1: Handle a request from a client, in French (1.2, 1.2, 1.3)

In a role-play situation, the candidate is given a data sheet in French for a product or service. He or she receives a call from a client requesting information. The candidate must show that he or she has correctly interpreted the client's request and ask questions in order to determine the client's needs as well as provide information taken from the data sheet. The conversation may be recorded.

Task 2: Write a document related to computing support, in French (2.1, 2.2)

Given a learning situation, the candidate must write ten instructions or short sentences providing advice for a new computer user.

Task 3: Prepare a bid in French (3.1, 3.2, 3.3)

Given a learning situation, the candidate must prepare a bid for Company A. He or she will receive a reply from Supplier B, containing delivery schedules, prices, applicable taxes, duty, etc., and a data sheet. The one-page bid must contain a header with the client's contact information, an introductory paragraph, a description of the products or services provided, a list of materials, key words from the knowledge bank and a conclusion.

3 MATERIALS

Candidates will have access to:

- a personal computer
- a French word-processing program
- a spelling and grammar checker
- data sheets
- a telephone

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
13 – Communication in French	Module code:	962 135
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	**MARK**
TASK 1: HANDLE A REQUEST FROM A CLIENT			
1.1 Accurate interpretation of request:			
- product	☐	☐	
- needs	☐	☐	
- budget	☐	☐	
- software	☐	☐	
- equipment	☐	☐	0 or 15
Error tolerance: one error			
1.2 Clear, pertinent questions concerning details of the work needed:			
- products	☐	☐	
- preferences	☐	☐	
- previous knowledge	☐	☐	
- use	☐	☐	0 or 15
Error tolerance: one error			
1.3 Clear, concise, coherent explanations:			
- product	☐	☐	
- preferences	☐	☐	
- previous knowledge	☐	☐	
- use	☐	☐	0 or 15
Error tolerance: one error			

OBSERVATION			MARK
	YES	NO	
TASK 2: WRITE A DOCUMENT RELATED TO COMPUTING SUPPORT			
2.1 Clear, concise, coherent writing:			
- logical order of presentation	☐	☐	
- clear text	☐	☐	
- inclusion of essential elements	☐	☐	
- spelling	☐	☐	
- punctuation	☐	☐	
- verb tense	☐	☐	
- vocabulary	☐	☐	
- technical terms	☐	☐	0 or 10
Error tolerance: five errors that do not interfere with the message being understood			
2.2 Use of appropriate key words in knowledge bank			0 or 10
TASK 3: PREPARE A BID IN FRENCH			
3.1 Clear requests to suppliers:			
- logical order of presentation	☐	☐	
- clear text	☐	☐	
- inclusion of essential elements	☐	☐	
- spelling	☐	☐	
- punctuation	☐	☐	
- verb tense	☐	☐	
- vocabulary	☐	☐	
- technical terms	☐	☐	0 or 15
Error tolerance: five errors that do not interfere with the message being understood			

OBSERVATION			MARK
	YES	NO	
3.2 Accurate interpretation of suppliers' answers:			
- conformity of bids with learning situation	☐	☐	0 or 10
3.3 Accurate interpretation of technical documentation			0 or 10
		Total:	/ 100
Minimum performance standard: 75 marks			

Comments: _____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
MANAGE ACCESS TO THE RESOURCES OF A NETWORK (Block 1)							
1	Situate the competency with respect to the learning program.	Reason for the competency Course outline Links with other modules					
A. DESCRIBE THE CHARACTERISTICS OF THE NETWORK (Block 2)							***Duration: 20%***
2	A.1 Define a network.	Description of categories LAN, MAN and WAN					
2	A.2 Use network functions.	Sharing of hardware and software Online communication					
2	A.3 Recognize the main types of network organization.	Peer-to-peer network Network with a server					
2	A.4 Identify the components of a network and their functions.	Hardware components Software components					
2	A.5 Recognize the characteristics and limits of a network.	Topologies and technologies Access protocols and methods Transmission medium Connectivity Network layers					
2	A.6 Apply the basic principles of the network operating system.	File server Workstation Directory structure Logic drive Security					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**A Describe the characteristics of the network.**			**1 Identification of the characteristics of the network**	40		
				1.1 Identification of the type of organization of the network and the specific features of the operating system		15	T
				1.2 Precise location of the hardware and software of the network		10	T
				1.3 Recognition of the limits of the network		15	T
B. PLAN THEIR WORK (Block 3)							***Duration: 5%***
2	B.1 Identify users' needs.	Login script User profile Network output procedure					
2	B.2 Assess the needs.	Review of Modules 11 and 19		Accurate assessment of the needs			
2	B.3 Verify the validity of the request.	Review of Module 19		Proper verification of the validity of the request			
2	B.4 Estimate the time needed.	Review of Module 12		Realistic estimate of the time required for the work			
2	B.5 Determine the planning procedure.	Directories Groups User rights		Observance of directives and security standards concerning data sharing			
2	B.6 Develop or interpret the network's directory service plan.	Placement of accounts Placement of groups Security parameters		Correct placement of accounts and user groups to be created in the company's directory services			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**B Plan their work.**			**2 Planning of their work**	10		
				2.1 Planning of a methodical procedure for creating directories and groups and providing user rights		10	T
C. CREATE ACCOUNTS AND USER GROUPS (Block 4)							***Duration: 40%***
2	C.1 Define the hierarchical management levels of a network and the roles of each.	Operators Administrators Supervisor/analyst		Observance of assembly sequence			
2	C.2 Recognize the operating system's utility programs.	System Users File management Disk management Print management					
2	C.3 Recognize the commands, users and supervisors.	Management command Environment command File command Directory command Directory and file command Review of Modules 3 and 9					
2	C.4 Define different ways of identifying a user.	Full name Abbreviated name Certain letters Company code Don'ts					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.5 Assign names to groups and accounts and set the security parameters.	Rules for assigning names (e.g. number of characters) Directives (e.g. passwords, access periods) Use of verification tests					
2	C.6 Determine the user profile.	Directives and user status Use of scripts Use of verification tests					
3	**C Create accounts and user groups.**			**3 Creation of accounts and user groups** 3.1 Meaningful names used for groups and accounts 3.2 Observance of directives concerning security parameters 3.3 Appropriate customization of the work environment	40	 10 15 15	 PT PT PT
D. TEST ACCESS TO THE RESOURCES (Block 5)						***Duration: 10%***	
2	D.1 Use a verification method.	Configuration of workstations Connection to the network Application software Choice of tests		Testing of the configuration of the workstation Testing of the proper functioning of the software Performance of appropriate tests			
2	D.2 Check and modify the components and connections as needed.	Review of Module 4					
2	D.3 Check the communication protocols.	Review of Module 4					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.4	Check the connection to the network.	Review of Module 4		Correct connection to the network			
3	**D**	**Test access to the resources.**			Effective problem solving			
E. RECORD INFORMATION ON THE WORK DONE (Block 6)								***Duration: 5%***
2	E.1	Record the information in the knowledge bank.	Review of Module 10 Review of Module 11, E					
2	E.2	Use computer terminology.	English French		Correct use of English and computer terminology			
3	**E**	**Record information on the work done.**			**4 Record of information on work done** 4.1 Accurate, complete record of details of work done on the database	10	10	PT
F. INFORM CLIENTS CONCERNING ACCESS TO THE NETWORK (Block 7)								***Duration: 7%***
2	F.1	Inform clients about the resources available and how to use them.	Rights Justification of choices Methods of adjusting		Completeness and clarity of information			
2	F.2	Present information according to user group.	Architecture drawing		Relevance of information			
2	F.3	Use computer terminology.	Rights Justification of choices		Information provided in French and English easily understood			
2	F.4	Be courteous and polite.	Review of Module 7		Demonstration of courteous manner			
2	F.5	Verify client satisfaction.	Review of Module 7		Verification of client satisfaction			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14) **Duration: 120 hours**

Statement of the competency: ***Manage access to the resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**F Inform clients concerning access to the network.**						
G. MANAGE ACCESS TO THE RESOURCES OF A NETWORK (Block 8)							***Duration: 8%***
2	G.1 Recognize the importance of following instructions.	Client's criteria Confidentiality					
2	G.2 Recognize the importance of courtesy and politeness.	Patience Persistence					
2	G.3 Adapt to different technologies.	No judgments made Absence of prejudices					
2	G.4 Recognize the importance of assimilating information.	Client Technology					
2	G.5 Solve problems.	Problem-solving process Efficiency Good organization					
3	**G Manage access to the resources of a network.**			Observance of instructions Methodical and successful research Effective use of commands and utilities of the operating system Observance of ergonomic rules			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14)							**Duration: 120 hours**
Statement of the competency: ***Manage access to the resources of a network***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
MANAGE ACCESS TO THE RESOURCES OF A NETWORK (Block 9)							***Duration: 5%***
							(including evaluation for the purpose of certification)
4	**MANAGE ACCESS TO THE RESOURCES OF A NETWORK.**	Business using different platforms		Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
MANAGE ACCESS TO THE RESOURCES OF A NETWORK (Block 10)							
5	**MANAGE ACCESS TO THE RESOURCES OF A NETWORK.**	Solving of more complex problems.					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 148 – NETWORKS: ACCESS MANAGEMENT (Module 14)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to manage access to the resources of a network. The examination consists of one theory task and one practical task:

Task 1: Recognition of the characteristics of a network
Task 2: Management of access to the resources of a network

2 EXAMINATION PROCEDURE

It is suggested that the candidates be given two hours for the theory examination and four hours for the practical examination.

PART ONE: THEORY EXAMINATION

Task 1: Recognition of the characteristics of a network (1.1 to 2.1)

Given four types of business organization, the candidate must choose the appropriate category of network for each business: LAN, MAN or WAN.

1.1 Identification of the type of organization of the network and the specific features of the operating system

Given a list of words, the candidate must fill in the blanks in five sentences explaining the main functions of a network, i.e. the sharing of data, applications and peripherals.

1.2 Precise location of the hardware and software of the network

Given four network architecture drawings, the candidate must determine which type of network organization (peer-to-peer or server) each drawing refers to and explain his or her answer.

The candidate must list the hardware and software essential for the proper functioning of a star Ethernet (twisted pair) arranged around a server or according to the technology taught (arcnet, token ring, etc.). He or she must produce or complete a drawing.

1.3 Recognition of the limits of the network

The candidate must answer five questions (true or false) about topologies (ring, star, bus, etc.) technologies (arcnet, Ethernet, token ring), communication protocols (IPX/SPX, NetBEUI, TCP/IP, etc.), access methods (CSMA/CA, CSMA/CD, token passing, etc.), transmission media (coaxial, twisted, microwave fibre optic, etc.) and connectivity (bridge, router, gateway, etc.).

Given a list of words, the candidate must also answer four questions about the basic principles of the operating system taught (Novell, NT, Linux, etc.). These principles may include: protocol, maximum memory, client, directory structure, logic drive, security, etc.

2.1 Planning of a methodical procedure for creating directories and providing user rights

Given two business profiles, the candidate must represent the optimal organization of directories or files (tree structure) as it might appear on screen.

PART TWO: PRACTICAL EXAMINATION

Task 2: Management of access to the resources of a network

The candidates will be given an organizational chart with at least six departments and six software programs used in a company. For example:

- Sales:
  - word processing
  - spreadsheet
  - database
- Graphic design:
  - word processing
  - spreadsheet
  - graphic design and desktop publishing
- Accounting:
  - accounting
  - spreadsheet
  - database
- Human resources:
  - word processing
  - database
  - graphic design

- Secretarial services:
  - word processing
  - spreadsheet
  - database
  - desktop publishing
- Computer services:
  - programming languages
  - word processing

The candidate must create work groups for each department. For each work group, the candidate must create a user account and determine the appropriate access rights. Then, the candidate must create two different scripts containing a logic drive, a displayed greeting, network printing, and so on. The candidate must describe the procedures used to give access to the network resources, including tests. The candidate must also provide explanations and instructions for one of the user accounts.

Finally, the candidate must print and submit to the teacher:

- the company's tree structure
- the tree structure for each user account
- a password proof with a minimum of four characters and the access period
- a proof of each user account's rights
- the script for the two user accounts

3 MATERIALS

For Task 2 the candidates will have access to:

- a computer connected to a network
- a network or local printer
- the network operating system manuals for management purposes

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
14 – Networks: Access Management	Module code:	962 148
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	MARK
PART I: THEORY EXAMINATION			
TASK 1: RECOGNITION OF THE CHARACTERISTICS OF A NETWORK			
1 IDENTIFICATION OF THE CHARACTERISTICS OF THE NETWORK			
1.1 Identification of the type of organization of the network and the specific features of the operating system:			
- description of categories	☐	☐	
- sharing of resources	☐	☐	
- main types of network organization	☐	☐	0 or 15
1.2 Precise location of the hardware and software of the network:			
- server	☐	☐	
- workstation	☐	☐	
- interface card (server)	☐	☐	
- interface card (workstation)	☐	☐	
- cabling (transmission medium)	☐	☐	
- amplifier	☐	☐	
- emergency battery	☐	☐	
- network operating system (server)	☐	☐	
- client (protocol depending on the system)	☐	☐	0 or 10
Error tolerance: maximum of two omissions: emergency battery and protocol			

OBSERVATION				MARK
		YES	NO	
1.3	Recognition of the limits of the network:			
	- true or false: topology, technology, protocol, access method and connectivity	☐	☐	
	- basic principles of the network operating system Error tolerance: one incorrect choice	☐	☐	0 or 15
2	PLANNING OF THEIR WORK			
2.1	Planning of a methodical procedure for creating directories and groups and providing user rights			0 or 10
RESULT FOR PART I				**/ 50**

OBSERVATION			MARK
	YES	NO	
PART II: PRACTICAL EXAMINATION			
TASK 2: MANAGEMENT OF ACCESS TO THE RESOURCES OF A NETWORK			
3 CREATION OF ACCOUNTS AND USER GROUPS			
3.1 Meaningful names used for groups and accounts			0 or 10
3.2 Observance of directives concerning security parameters such as:			
- passwords	☐	☐	
- access periods	☐	☐	0 or 15
- user rights	☐	☐	
Error tolerance: two incorrect user rights			
3.3 Appropriate customization of the work environment of users or groups, using scripts			
- placement	☐	☐	
- commands	☐	☐	0 or 15
Error tolerance: two minor errors that do not interfere with the proper functioning of the script; only the result of the execution of the script counts			
4 RECORD OF INFORMATION ON WORK DONE			
4.1 Accurate, complete record of details of work done on the database:			
- account name	☐	☐	
- accessible resources	☐	☐	
- verification of procedure	☐	☐	
- consistency	☐	☐	0 or 10
Error tolerance: one error			
RESULT FOR PART II			**/ 50**

PART I	**PART II**
RESULT / 50	RESULT / 50
Minimum performance standard: 40	Minimum performance standard: 40
Pass ☐ YES ☐ NO	Pass ☐ YES ☐ NO
Total: / 100	
Minimum performance standard: successful completion of both parts	

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
INSTALL THE SHAREABLE RESOURCES OF A NETWORK (Block 1)							
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. PLAN THEIR WORK (Block 2)							***Duration: 5%***
2	A.1 Interpret instructions and data sheets.	Technology Cabling Network amplifier Driver Supplementary instructions		Accurate interpretation of instructions and data sheets for components			
2	A.2 Test the conformity of the components.	Compatibility of hardware with operating system File server (dedicated, nondedicated) Hard disk Network adapter: - memory requirements - electrical power requirements		Testing of hardware components and software to ensure they are in conformity with instructions			
2	A.3 Establish an assembly sequence.	Reassembly Equipment and documentation Preparation of media for copies Preparation of hard disk Installation of interface cards and cables Installation of network operating system		Establishment of a logical assembly sequence			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**A**	**Plan their work.**						
B. INSTALL THE NETWORK OPERATING SYSTEM (Block 3)								***Duration: 30%***
2	B.1	Follow instructions for the creation of directory services.	Type of server Location of accounts Location of groups Security parameters Identification of users Access rights Use of management tools and reference manuals Observance of safety rules Appropriate technology		Observance of instructions on creating company directory services Observance of installation procedures provided by the manufacturer			
2	B.2	Install and configure the network card.	Compatibility, technology, appropriate driver Address and interruption Supplementary instructions Use of tools and reference manuals Observance of rules concerning handling and safety Insertion of components Solid assembly of components Consistent technology		Correct installation and configuration of the network card Configuration in conformity with instructions			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.3	Prepare the hard disk.	Creation of partitions Creation of volumes Installation of file systems Formatting Use of tools and reference manuals Observance of rules concerning handling and safety Insertion of components Solid assembly of components Consistent technology		Proper preparation of the hard disk: - creation of partitions - management of volumes - installation of file systems - formatting			
3	**B**	**Install the network operating system.**						
C. INSTALL THE CLIENT SOFTWARE ON THE WORKSTATIONS (Block 4)								***Duration: 10%***
2	C.1	Install and configure the network card.	Compatibility, technology, appropriate driver Address and interruption Supplementary instructions Use of tools and reference manuals Observance of rules concerning handling and safety Insertion of components Solid assembly of components Consistent technology		Correct installation and configuration of network card			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.2 Install and configure the client software.	Choice of appropriate client software for the operating system Choice of appropriate communication protocol for the operating system		Installation and configuration of client software and terminal emulation according to the operating system on the workstation			
3	**C Install the client software on the workstations.**			**1 Installation and configuration of client software on the workstations**	25		
				1.1 Correct installation and configuration of client software		10	PT
				1.2 Observance of communication protocols		15	PT
D. ESTABLISH COMMUNICATION BETWEEN COMPONENTS (Block 5)							***Duration: 5%***
2	D.1 Install the cabling.	Manufacturer's description Measurement of distances Conformity with standards Assembly of cabling					
2	D.2 Install repeaters or amplifiers.	Compatible technologies Choice of location		Placement of repeaters or amplifiers depending on the type of cabling			
2	D.3 Test the communication.	Testing of cabling Limits of cabling Client's choice vs. technologies Communication protocol vs. operating system		Correct preparation and installation of cabling Proper testing of communication between the components			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15)						**Duration: 105 hours**		
Statement of the competency: ***Install the shareable resources of a network***								
COMPETENCY		**LEARNING**		**EVALUATION**				
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**		**W_I**	**W_C**	**St**
3	**D Establish communication between components.**			**2 Establishment of communication**		15		
				2.1	Proper establishment of communication between the components		15	PT
E. INSTALL SHAREABLE RESOURCES (Block 6)							***Duration: 35%***	
2	E.1 Identify the shareable resources.	Client's requests Software Peripherals Data						
3	E.2 Configure the shareable resources.	Network software "Shareable" criterion Peripherals (printer, CD-ROM, digitizer, fax, etc.) Selection of services						
3	E.3 Test the peripherals.	Subscriber station Functional links		Proper functioning of peripherals using application software				
3	**E Install shareable resources.**			**3 Installation and configuration of shareable resources**		45		
				3.1	Correct installation and configuration of peripherals		15	PT
				3.2	Correct installation and configuration of application software		15	PT
				3.3	Correct installation and configuration of services		15	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
F. ENSURE DATA INTEGRITY (Block 7)								***Duration: 5%***
2	F.1	Install the hardware and software needed for data safety.	Backup unit Appropriate software		Correct installation of the hardware and software needed for data safety			
2	F.2	Implement backup procedures.	Backup schedule: - daily - weekly Choice of data to back up (elements) Identification of person in charge					
3	**F**	**Ensure data integrity.**			**4 Backup procedures**	15		
					4.1 Setting up of procedures to ensure data safety		15	PT
G. TEST THE RESULTS AND RECORD THE DATA CONCERNING THE WORK (Block 8)								***Duration: 3%***
2	G.1	Test the functioning of the system.	Operating system vs. hardware Problem solving Client satisfaction		Proper testing of the accessibility of the resources installed			
2	G.2	Record information about the work done.	Review of Module 11 - workstations - functional links		Accurate, complete entry of details of the work in the database Use of correct English and French terminology			
3	**G**	**Test the results and record the data concerning the work.**						

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15) **Duration: 105 hours**

Statement of the competency: ***Install the shareable resources of a network***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
INSTALL THE SHAREABLE RESOURCES OF A NETWORK (Block 9)							***Duration: 2%***
2	Recognize the importance of quality.	Quality criteria Efficiency					
2	Use documentation.	Online Paper Multimedia (English and French)					
2	Adapt to special conditions.	Incompatibility Structure variations					
3	**INSTALL THE SHAREABLE RESOURCES OF A NETWORK.**			Conformity with the plan of the network architecture and the instructions Methodical work Effective use of reference materials Observance of professional ethics Careful handling of equipment Effective use of the commands and utilities of the operating system Effective problem solving			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 157 – NETWORKS: RESOURCE SHARING (Module 15)							**Duration: 105 hours**
Statement of the competency: ***Install the shareable resources of a network***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
INSTALL THE SHAREABLE RESOURCES OF A NETWORK (Block 10)							***Duration: 5%***
							(including evaluation for the purpose of certification)
2	Install another network operating system and another type of server.	Choice of system: - NT, Novell, Linux, Mac, etc. Choice of server: - DHCP, HTTP, FTP, Secondary, Proxy, etc. Validation of needs Identification of the advantages of another system and another type of server for the company Data migration					
4	**INSTALL THE SHAREABLE RESOURCES OF A NETWORK.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
INSTALL THE SHAREABLE RESOURCES OF A NETWORK (Block 11)							
5	**INSTALL THE SHAREABLE RESOURCES OF A NETWORK.**	Complex projects exceeding entry-level requirements					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 157 – NETWORKS: RESOURCE SHARING (Module 15)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to install the shareable resources of a network. The examination consists of a single task.

2 EXAMINATION PROCEDURE

The candidates will be given four hours for the examination.

Task: Installation and configuration of the different software programs and shareable resources

Given a learning situation that describes the needs of a client or a company wishing to share network resources, the candidate must install the necessary hardware and software on the client's workstation, connect it to two existing servers, install and configure application software and share points. He or she must perform the following operations from the workstation:

- prepare the cable
- install and configure the network card
- connect the cable to the network card and the amplifier
- test the communication
- install and configure the client software and the communication protocol (at least two different clients and protocols)
- test the connection to the different servers
- connect, install and configure the local printer
- test the local printer
- add the network printer for the different users
- test the network printer
- install the applications suite
- use the applications suite to send print jobs to the local and network printers
- allow other users to use the share points on the workstation, depending on the type of access requested:
  - local printer
  - files
  - applications
  - drives
- set the default location for the saving of applications suite files
- prepare an automatic backup for applications suite documents to one of the two servers

The examiner will provide each candidate with an IP address, the names of the servers already installed as well as the necessary access codes.

3 MATERIALS

The candidates will have access to:

- two different types of previously configured servers
- a previously configured network printer managed by one of the two servers
- a previously configured workstation with two operating systems (older and recent)
- a local printer for the workstation
- a network card for the workstation
- cabling and a concentrator consistent with the technology used
- data sheets and components
- the appropriate tools and equipment
- installation manuals and all the necessary installation and configuration software
- operating systems
- an applications suite

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
15 – Networks: Resource Sharing	Module code:	962 157
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	MARK
1 INSTALLATION AND CONFIGURATION OF CLIENT SOFTWARE ON THE WORKSTATIONS			
1.1 Correct installation and configuration of client software:			
- choice of client software in accordance with request	☐	☐	0 or 10
1.2 Observance of communication protocols:			
- appropriate choice of communication protocol	☐	☐	
- correct protocol parameters	☐	☐	
- correct network addressing	☐	☐	
- identification of computer	☐	☐	0 or 15
2 ESTABLISHMENT OF COMMUNICATION			
2.1 Proper establishment of communication between the components:			
- installation and configuration of card	☐	☐	
- preparation and installation of cable	☐	☐	
- successful communication	☐	☐	0 or 15
3 INSTALLATION AND CONFIGURATION OF SHAREABLE RESOURCES			
3.1 Correct installation and configuration of peripherals:			
- correct installation and configuration of printers	☐	☐	
- successful local and network printing	☐	☐	0 or 15
Error tolerance: omission of a print test			

OBSERVATION				MARK
		YES	NO	
3.2	Correct installation and configuration of application software: - installation and configuration in accordance with request Error tolerance: omission of one element of request	☐	☐	0 or 15
3.3	Correct installation and configuration of services: - installation and configuration in accordance with request Error tolerance: two share points omitted	☐	☐	0 or 15
4	BACKUP PROCEDURES			
4.1	Setting up of procedures to ensure data safety: - appropriate choice of data to back up - successful backup Error tolerance: backup to an incorrect location	☐ ☐	☐ ☐	0 or 15
			Total:	/ 100
Minimum performance standard: 80 marks				

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16)							**Duration: 90 hours**
Statement of the competency: ***Exploit the possibilities of telecommunications facilities***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES (Block 1)							***Duration: 5%***
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. INSTALL HARDWARE AND SOFTWARE OF TELECOMMUNICATIONS FACILITIES (Block 2)							***Duration: 20%***
2	A.1 Identify installation techniques.	Hardware Software Review of Module 11					
2	A.2 Plan their work.	Needs assessment Identification of components Establishment of assembly sequences					
2	A.3 Choose the appropriate components.	Technology used Operating system Drivers Versions		Choice of appropriate cables for type of work			
2	A.4 Prepare the workstation or server.	Shutdown of workstation or server Start-up of device					
2	A.5 Prepare the component.	Verification of consistency of part/manual/packaging Record of information about component					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.6 Install and configure the modem.	Insertion of modem or connection of driver Testing of proper functioning Testing of transmission Decoding of error messages Problem solving		Effective problem solving			
2	A.7 Install and configure the communication software.	Verification of consistency of software with AOS Determination of existence of a modem Installation of software Testing of proper functioning Testing of transmission		Proper testing of the establishment of communication			
2	A.8 Install and configure software for creating hypermedia documents and browsers.	Verification of consistency of software with AOS Installation of software Testing of proper functioning Testing of transmission					
2	A.9 Install and configure remote control software.	Verification of consistency of software with AOS Installation of software Testing of proper functioning Testing of transmission					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16)							**Duration: 90 hours**
Statement of the competency: ***Exploit the possibilities of telecommunications facilities***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.10 Identify the transport layers.	Seven layers of OSI model Four layers of TCP/IP model Their operation Protocols Addresses					
3	**A Install hardware and software of telecommunications facilities.**			**1 Installation of components**	40		
				1.1 Correct installation and configuration of internal and external modems.		15	PT
				1.2 Correct installation and configuration of software for creating hypermedia documents		10	PT
				1.3 Identification of the functions of the OSI, TCP/IP layers and protocols		15	PT
B. MANAGE THE SENDING AND RECEPTION OF FAXES AND E-MAIL (Block 3)							***Duration: 15%***
2	B.1 Choose the communication tool.	Questions about client's tools Analysis of the feasibility of the transmission Choice of method (computer or fax)					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.2 Configure the fax tools (computer or fax).	Manufacturer's manuals Assessment of client's needs Individual and group mailings (fax header, logo, electronic signature, etc.) Testing of proper functioning Testing of transmission Transmission report Transmission statements		Correct procedure used to create e-mail messages and faxes			
2	B.3 Determine the standards for writing faxes.	Header (logo, company name, telephone number) Sender Addressee Subject Date Message Signature Quality criteria					
2	B.4 Send faxes.	Selection of type of mailing (individual or group) Need to comply with standards Retrieval of transmission report (electronic or paper)		Correct procedure used to send faxes to individuals and groups			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.5 Send and retrieve e-mail.	Addressing mode Attachments Compression and decompression Address book Individual and group mailings Need to comply with standards Use of menu File management Carbon copy Priority		Correct retrieval of faxes and e-mail messages Effective management of in-box and address book Proper compression and decompression of files attached to e-mail messages and faxes			
2	B.6 Be security conscious.	Identification of encryption modes		Implementation of appropriate security measures			
3	**B Manage the sending and reception of faxes and e-mail.**			**2 E-mail management** 2.1 Correct procedure used to send e-mail messages to individuals and groups	10	10	PT
C. SEARCH FOR INFORMATION ON THE ELECTRONIC HIGHWAY (Block 4)							***Duration: 5%***
2	C.1 Use search engines.	Type of information sought Search criteria Boolean search See Module 5.		Correct use of search engines Precise search criteria			
2	C.2 Interpret technical information.	See Module 5.					
2	C.3 Determine the relevance of technical information.	Choice of search criteria See Module 5.		Selection of relevant information			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.4 File information.	Organization of bookmarks, favourites, files, folders, etc. See Module 5.		Appropriate organization of addresses and sites used			
2	C.5 Use discussion groups.	Public Private		Effective use of discussion groups			
3	**C Search for information on the electronic highway.**						
D. CREATE A HYPERMEDIA DOCUMENT (Block 5)							***Duration: 10%***
2	D.1 Identify the needs.	Type of site (educational, commercial, corporate, consultation) Questions about target user/client		Accurate analysis of the needs Consideration of the needs			
2	D.2 Choose software.	Consideration of needs Need for accounting report vs. computer capability Feasibility of project					
2	D.3 Structure the document.	Organization Determination of content Definition of types of interactivity and their limits (links, responses) Grouping of units related to theme menu Choice of strategy and media					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.4 Design screen pages.	Use of programming language Use of frames Creation of links (targets) Creation of tables Insertion of images (audio/video) Formatting and layout of text Insertion of navigation buttons Statistics on visitors to site Mention of copyrights Testing of proper functioning		Pleasing and user-friendly layout Testing of proper functioning of document Correct use of programming language			
2	D.5 Uploading and hosting of document on server.						
3	**D Create a hypermedia document.**			**3 Creation of a hypermedia document**	50		
				3.1 Use of software for creating hypermedia documents		15	PT
				3.2 Logical structure		15	PT
				3.3 Establishment of effective and relevant links among elements		15	PT
				3.4 Proper uploading of document onto server		5	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16)				**Duration: 90 hours**			
Statement of the competency: ***Exploit the possibilities of telecommunications facilities***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
E. USE REMOTE CONTROL (Block 6)							***Duration: 15%***
2	E.1 Define remote control.	Tools (appropriate software) Language (communication protocol) Telecommunication mode Limits Compatibility					
2	E.2 Establish the procedure.	Questioning of client Choice of communication tool Start-up and connection procedure for remote control Exchange of information and files		Proper start-up procedure for the session Correct file transfer Effective use of functions for managing the work session			
3	**E Use remote control.**						
EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES (Block 7)							***Duration: 15%***
2	Recognize the importance of quality.	Quality criteria Efficiency					
3	**EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES.**			Mastery of software programs Effective use of help functions Correct interpretation and use of terminology Observance of professional ethics Concern for the quality of language			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16) **Duration: 90 hours**

Statement of the competency: ***Exploit the possibilities of telecommunications facilities***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES (Block 8)						***Duration: 15%***	
2	Adapt to special conditions.	Cost/method/deadline ratio					
2	Solve problems.	Problem-solving process					
4	**EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES (Block 9)							
5	**EXPLOIT THE POSSIBILITIES OF TELECOMMUNICATIONS FACILITIES.**	Complex projects beyond the entry-level requirements					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 166 – TELECOMMUNICATIONS FACILITIES (Module 16)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to exploit the possibilities of telecommunications facilities.

2 EXAMINATION PROCEDURE

The examination consists of three tasks.

Task 1: Installation and configuration of components and telecommunications software (1.1, 1.2)

The candidate must install and configure an internal or external modem. While configuring the operating system, he or she must ensure that there are no conflicts of peripherals. The candidate must also install software for creating hypermedia documents.

Task 2: Communication models (1.3)

The candidate must answer ten questions about the transportation layer and communication protocols.

Task 3: E-mail management (2.1)

The candidate must use an e-mail program to send messages to groups and individuals. For example, he or she must create five groups, send three carbon copies, and compress and attach two documents.

Task 4: Creation of a hypermedia document (3.1, 3.2, 3.3, 3.4)

Given a learning context and the program to be used, the quantity of information and a description of the content, the candidate must create a hypermedia document. He or she must also present the organization of the document. The document must have a logical structure and there must be effective and pertinent links between its elements. This examination may be administered at any time after 45 course hours. The hypermedia document must be uploaded onto a local server during the final three course hours.

3 MATERIALS

The candidates will have access to:

- a personal computer
- communication software
- an internal or external modem
- remote control and file compression and decompression software

The use of course notes is not permitted.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
16 – Telecommunications Facilities	Module code:	962 166

Candidate's name: _____

School: _____ RESULT:

Permanent code: _____ PASS ☐ FAIL ☐

Date of examination: _____

Examiner's signature: _____

OBSERVATION	YES	NO	MARK
TASK 1: INSTALLATION AND CONFIGURATION OF COMPONENTS AND SOFTWARE			
1.1 Correct installation and configuration of internal and external modems:			
- choice of expansion slot	☐	☐	
- conflict resolution	☐	☐	
- testing of proper functioning	☐	☐	
- testing of transmission	☐	☐	0 or 15
1.2 Correct installation and configuration of software for creating hypermedia documents:			
- verification of consistency of software with AOS	☐	☐	
- installation of software	☐	☐	
- testing of proper functioning	☐	☐	
- testing of transmission	☐	☐	0 or 10
TASK 2: TELECOMMUNICATION MODEL			
1.3 Identification of the functions of the OSI, TCP/IP layers and protocols Error tolerance: two errors on ten questions			0 or 15

OBSERVATION	YES	NO	MARK
TASK 3: E-MAIL MANAGEMENT			
2.1 Correct procedure used to send e-mail messages to individuals and groups:			
- valid addresses	☐	☐	
- creation of an address book	☐	☐	
- transmission of carbon copies	☐	☐	
- attachment of two documents	☐	☐	0 or 10
TASK 4: CREATION OF A HYPERMEDIA DOCUMENT			
3.1 Use of software for creating hypermedia documents:			
- observance of instructions	☐	☐	
- use of the specified software	☐	☐	
- inclusion of all the elements	☐	☐	
- observance of file size	☐	☐	
- aesthetic layout	☐	☐	
- user-friendly layout	☐	☐	0 or 15
3.2 Logical structure:			
- observance of organization	☐	☐	
- proper arrangement of elements	☐	☐	
- inclusion of navigation elements	☐	☐	
- observance of theme	☐	☐	0 or 15
3.3 Establishment of effective and relevant links among elements:			
- testing of relevant links	☐	☐	
- conformity with client's request	☐	☐	0 or 15

OBSERVATION			MARK
	YES	NO	
3.4 Proper uploading of document onto server:			
- testing of proper functioning of page	☐	☐	
- establishment of link between page and server	☐	☐	
- observance of instructions (http, ftp)	☐	☐	0 or 5
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

_____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 173 – CAREER MANAGEMENT (Module 17) **Duration: 45 hours**

Statement of the competency: ***Manage their careers***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: REFLECTION ON THE IMPACT OF TECHNOLOGICAL CHANGE (Block 1)					***Duration: 20%***
1.1 Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules				
1.2 Present their views on computing support and foreseeable changes.	Review of Module 7, 1.7				
1.3 Learn about new technologies.	Specialized magazines Internet Online documentation Suppliers Etc.		**1 Reflect on the impact of technological change** 1.1 Gather information using the sources provided.	20	15
1.4 Discuss the impact new technology may have on occupational tasks.	Increased demand New products New markets Increased specialization		1.2 Give their opinions in discussions.		5
1.5 Assess their ability to adapt to change.	Attitudes Aptitudes				
1.6 Identify ways to update their knowledge and skills.	Library Reference centres Seminars Exhibitions Internet				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 173 – CAREER MANAGEMENT (Module 17)			**Duration: 45 hours**		
Statement of the competency: ***Manage their careers***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 2: PREPARATION AND APPLICATION OF A JOB SEARCH PLAN (Block 2)				***Duration: 50%***	
2.1 Identify the elements of a personal assessment.	Areas of interest Values Aptitudes Attitudes Strengths Weaknesses				
2.2 Prepare a personal assessment containing the appropriate elements.	Inclusion of all the elements				
2.3 Learn about information sources.	Material resources Human resources				
2.4 Make a list of potential employers.	Job banks Employment centres Classified ads Specialized newspapers and magazines Instructors Acquaintances Placement agencies Etc.				
2.5 Determine the standards for writing a résumé.	Type of information Presentation				
2.6 Determine the standards for writing a covering letter.	Rules for writing covering letters Rules for formatting covering letters				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 173 – CAREER MANAGEMENT (Module 17) **Duration: 45 hours**

Statement of the competency: ***Manage their careers***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
2.7 Write a résumé and covering letter.	Rules of presentation Pertinent information		**2 Prepare and apply a job search plan.** 2.1 Write a résumé and covering letter.	40	15
2.8 Understand the importance of attitudes and behaviours in their contacts with potential employers.	Enthusiasm Motivation Confidence Perseverance Etc.				
2.9 Understand the importance of being well prepared for a selection interview.	Brief analysis of the company Size of the company Location Sector of activity Etc.				
2.10 Practise interview techniques.	Attitudes and behaviours to adopt: - request for interview - interview - most frequently asked questions		2.2 Prepare for and undergo a job interview.		15
2.11 Learn the steps involved in looking for a job.	Planning Request for an interview Interview Follow-up Etc.				
2.12 Plan the steps in their job search.	Determination of sequence of steps Determination of actions for each step				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 173 – CAREER MANAGEMENT (Module 17)			**Duration: 45 hours**		
Statement of the competency: ***Manage their careers***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
2.13 Implement their job search plan.	Visits Mailings E-mail Telephone Fax		2.3 Present detailed job search plans.		10
2.14 Keep a log of the steps in the job search and actions taken.	People contacted Resources consulted Information gathered Methods used Difficulties Successes				
PHASE 3: LEARNING ABOUT ENTREPRENEURSHIP AND FREELANCING (Block 3)					***Duration: 15%***
3.1 State their main experience and achievements.	Personal Social Family Occupational				
3.2 Identify their strengths and limits with respect to their experience and achievements.	Character traits Aptitudes Attitudes Knowledge Competencies Preferences Interests				
3.3 Identify important points and prioritize them.	Short term Long term				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 173 – CAREER MANAGEMENT (Module 17) **Duration: 45 hours**

Statement of the competency: ***Manage their careers***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.4 Learn about entrepreneurship.	Entrepreneur Requirements Success factors		**3 Learn about entrepreneurship and freelancing.** 3.1 Explain why they do, or do not, plan to start their own business or work as a freelancer.		10
3.5 Define freelancing.	Taxes Entrepreneurship				
3.6 Learn about the responsibilities of freelancers.	Planning a budget Remitting sales tax Writing reports Remitting advance tax payments Retaining receipts Liability insurance Etc.				
3.7 Assess the possibility of starting their own business or becoming a freelancer.	Links between the present economic situation and the field of computing support Characteristics of an entrepreneur Motivation for starting up a business Main steps involved in becoming an entrepreneur Available sources of information				
3.8 Situate freelancing with respect to entrepreneurship.	Character traits of entrepreneurs Economic situation Requirements of freelance work				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 173 – CAREER MANAGEMENT (Module 17)			**Duration: 45 hours**		
Statement of the competency: ***Manage their careers***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.9 Assess their potential and personal objectives with respect to the requirements of entrepreneurship.	Comparison of personal character traits with entrepreneurial profile Motivation Strengths and weaknesses Impact on personal life				
PHASE 4: EVALUATION AND FOLLOW-UP OF THEIR JOB SEARCH (Block 4)					***Duration: 15%***
4.1 Discuss the relevance of the documents used and the effectiveness of their job search activities.	Use of log Group discussion				
4.2 Identify the elements to change in their job search plans.	Communication tools Content of documents Attitudes and behaviours Etc.				
4.3 Adjust their job search plans.	Conformity of changes		**4 Evaluate and follow-up their job search.** 4.1 Make realistic adjustments to the job search plan.	30	15
4.4 Compare their initial views with the reality of the job search and the job market.	Identification of differences				
4.5 Assess the effect of experience on their job search.	Development of techniques and attitudes		4.2 Discuss their experience with the job search and interview.		15

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

COMPUTING SUPPORT (5729)

962 173 – CAREER MANAGEMENT (Module 17)

INFORMATION ON THE EVALUATION

The examination consists in evaluating the candidates' ability to manage their careers.

Evaluation of the candidates' participation will be based on data gathered throughout the learning activities. A final judgment should not be made until the end of the corresponding phase in the learning context.

PHASE 1: REFLECTION ON THE IMPACT OF TECHNOLOGICAL CHANGE

1.1 GATHER INFORMATION USING THE SOURCES PROVIDED

The candidate must gather information about new technologies from the various sources provided.

1.2 GIVE THEIR OPINIONS IN DISCUSSIONS

Each candidate must discuss the consequences that new technologies can have on the profession.

PHASE 2: PREPARATION AND APPLICATION OF A JOB SEARCH PLAN

2.1 WRITE A RÉSUMÉ AND COVERING LETTER

The candidate must submit his or her résumé in accordance with the rules of presentation and including information about his or her work experience, education and competence, as well as a covering letter.

2.2 PREPARE FOR AND UNDERGO A JOB INTERVIEW

2.3 PRESENT A DETAILED JOB SEARCH PLAN

At the end of this phase, the candidate must submit a detailed job search plan including a job profile, a bank of potential employers, and arguments in favour of a particular workplace.

The instructor will evaluate the candidate's performance throughout the module. He or she must notify the student if the procedure fails to conform to performance criteria. The candidate can then make the necessary corrections.

PHASE 3: LEARNING ABOUT ENTREPRENEURSHIP AND FREELANCING

3.1 EXPLAIN WHY THEY DO, OR DO NOT, PLAN TO START THEIR OWN BUSINESS OR WORK AS A FREELANCER

During the training, the candidate must do a self-evaluation to help explain why he or she is, or is not, considering starting a business or becoming a freelancer.

PHASE 4: EVALUATION AND FOLLOW-UP OF THEIR JOB SEARCH

4.1 MAKE ADJUSTMENTS TO THEIR JOB SEARCH PLAN

In this phase, the candidate must realistically adjust his or her job search plan in order to overcome any difficulties encountered.

4.2 DISCUSS THEIR EXPERIENCE WITH THE JOB SEARCH AND INTERVIEW

The candidate must submit a report on his or her experience with the job search, based on his or her log, self-evaluation and course notes.

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
17 – Career Management	Module code:	962 173

Candidate's name: _____

School: _____ RESULT:

Permanent code: _____ PASS ☐ FAIL ☐

Date of examination: _____

Examiner's signature: _____

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 1: REFLECTION ON THE IMPACT OF TECHNOLOGICAL CHANGE		
1.1 Gather information using the sources provided	☐	☐
1.2 Give their opinions in discussions	☐	☐
PHASE 2: PREPARATION AND APPLICATION OF A JOB SEARCH PLAN		
2.1 Write a résumé and covering letter	☐	☐
2.2 Prepare for and undergo a job interview	☐	☐
2.3 Present detailed job search plans	☐	☐
PHASE 3: LEARNING ABOUT ENTREPRENEURSHIP AND FREELANCING		
3.1 Explain why they do, or do not, plan to start their own business or work as a freelancer	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 4: EVALUATION AND FOLLOW-UP OF THEIR JOB SEARCH		
4.1 Make realistic adjustments to the job search plan	☐	☐
4.2 Discuss their experience with the job search and interview	☐	☐
Pass/fail conditions: 6 YESes out of a possible 8, and a YES for components 2.1, 2.2, 4.1 and 4.2		

Comments: _____

_____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 186 – TROUBLESHOOTING (Module 18) **Duration: 90 hours**

Statement of the competency: ***Troubleshoot a computer problem***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
TROUBLESHOOT A COMPUTER PROBLEM (Block 1)							
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A. ANALYZE THE CLIENT'S NEEDS (Block 2)							***Duration: 10%***
2	A.1 Ask more in-depth questions about the problem.	Type of system Source Frequency Variables Use of French		Precise questioning of client on the source, frequency and variables of the problem			
2	A.2 Record the information.	Selection of information Note-taking method					
2	A.3 Recognize the importance of listening attentively to the client's answers.	Conditions of attentiveness: concentration, receptivity, etc. Elements that can alter a message		Attentive listening to client			
2	A.4 Assess the feasibility of the request.	Technology Compatibility Software Components Priority of request					
3	**A Analyze the client's needs.**			**1 Analysis of client's needs** 1.1 Relevant notes	20	10	PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 186 – TROUBLESHOOTING (Module 18)							**Duration: 90 hours**
Statement of the competency: ***Troubleshoot a computer problem***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
				1.2 Accurate assessment of whether the request should be accepted and of its priority		10	PT
B. EXAMINE THE COMPUTER (Block 3)							***Duration: 15%***
2	B.1 Identify the hardware and software components.	System Configuration Customization		Examination of the configuration of the computer, taking into account the client's preferences Recognition of the type of system			
2	B.2 Establish the order of testing.	Operating system Error message Hardware Software Tests Observance of safety rules		Logical order of testing of various points Observance of safety rules			
2	B.3 Select and use tests to evaluate the feasibility of the request.	Choice of diagnostic tools or instruments Use of tests Evaluation of results Compatibility Technology					
3	**B Examine the computer.**			**2 Examination of computer** 2.1 Appropriate tests	15	 15	 PS

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 186 – TROUBLESHOOTING (Module 18) **Duration: 90 hours**

Statement of the competency: ***Troubleshoot a computer problem***

COMPETENCY			LEARNING		EVALUATION			
Ph*	**Learning Focuses**		**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. ANALYZE THE DATA ON THE PROBLEM (Block 4)								***Duration: 25%***
2	C.1	Interpret the test results.	Relevant data Elements to consider Elimination of unlikely causes					
2	C.2	State the problem.	Important elements to include Description of all possibilities Consideration of several possible statements					
2	C.3	Assess the consequences of the problem.	Criteria for assessing the importance of a problem Review of Module 4		Accurate assessment of the consequences of the problem			
3	**C**	**Analyze the data on the problem.**			**3 Determination of problem** 3.1 Accurate interpretation of test results 3.2 Clear formulation of the problem	25	 10 15	 PS PS
D. DETERMINE THE CAUSE OF THE PROBLEM (Block 5)								***Duration: 15%***
2	D.1	Formulate hypotheses for the probable causes of a problem.	Definition and components of a hypothesis Rules for formulating hypotheses		Relevant hypotheses			
2	D.2	Test the hypotheses formulated.	Use of test procedure: - collection of technical data - determination of points to be tested - determination of testing order		Proper testing of hypotheses			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 186 – TROUBLESHOOTING (Module 18)							**Duration: 90 hours**
Statement of the competency: ***Troubleshoot a computer problem***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	D.3 Make a diagnosis.	Creation of a synoptic data table Search for ideas based on available information Rules for stating problems and situations Formulation of various possible diagnoses Review of Module 4, C		Determination of the exact cause of the problem Effective use of diagnostic tools			
3	**D Determine the cause of the problem.**						
E. CORRECT THE PROBLEM (Block 6)							***Duration: 20%***
2	E.1 Consult the knowledge bank.	Recurring problem New problem Nature of comparisons Identification of similarities and differences Links with the current problem Aggravation of the problem Decision making		Effective consultation of knowledge bank Quick decision making			
2	E.2 Formulate possible temporary solutions.	Short-term solution Presentation of solution and client's approval		Effective consultation of knowledge bank			
2	E.3 Identify a permanent solution.	Cost Time Service on site or outside Client's approval		Quick decision making			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 186 – TROUBLESHOOTING (Module 18) **Duration: 90 hours**

Statement of the competency: ***Troubleshoot a computer problem***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	E.4 Ensure that the data are saved and retain their integrity.	Application of measures Choice of method		Application of measures to save data and ensure their integrity			
2	E.5 Apply the solution.	Planning of procedure Choice and use of tools Handling in accordance with safety rules Testing of proper functioning		Proper use of tools Careful handling of equipment Observance of safety rules			
2	E.6 Restore the configuration of the computer.	Choice of restoration method Customization		Proper functioning of the computer Observance of safety rules			
3	**E Correct the problem.**			**4 Correction of problem** 4.1 Acceptable temporary solutions 4.2 Selection of the most appropriate permanent solution 4.3 Restoration of the configuration of the computer	40	 10 10 20	 PT PT PT
F. FINISH THE WORK (Block 7)							***Duration: 5%***
2	F.1 Update the inventory and knowledge bank.	Problems Changes Methods Procedures Etc.		Updating of inventory and knowledge bank			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 186 – TROUBLESHOOTING (Module 18)				**Duration: 90 hours**			
Statement of the competency: ***Troubleshoot a computer problem***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	F.2 Make recommendations to the client.	Comparison of systems: - verbal - written (reference manual) Assessment of client satisfaction		Clear, relevant, simple recommendations for avoiding a recurrence of the problem Accurate assessment of client's satisfaction			
3	**F Finish the work.**						
TROUBLESHOOT A COMPUTER PROBLEM (Block 8)							***Duration: 5%***
2	Recognize the importance of quality.	Quality criteria Efficiency Work in conformity with client's expectations					
2	Use documentation.	Online Paper Multimedia (English and French)					
2	Adapt to special conditions.	Incompatibility Structure variations					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 186 – TROUBLESHOOTING (Module 18) **Duration: 90 hours**

Statement of the competency: ***Troubleshoot a computer problem***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**TROUBLESHOOT A COMPUTER PROBLEM.**			Speed of the work Proper problem-solving procedure Effective use of reference materials Concern for the quality of English Acceptable use of French Appropriate level of language for clients Autonomy, perseverance and self-control Patience and courtesy with client			
TROUBLESHOOT A COMPUTER PROBLEM (Block 9)							***Duration: 5%***
							(including evaluation for the purpose of certification)
4	**TROUBLESHOOT A COMPUTER PROBLEM.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
TROUBLESHOOT A COMPUTER PROBLEM (Block 10)							
5	**TROUBLESHOOT A COMPUTER PROBLEM.**	One cause, multiple problems Multiple causes, one problem Multiple causes, multiple problems					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 186 – TROUBLESHOOTING (Module 18)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to troubleshoot a computer problem. The examination consists of a single task.

2 EXAMINATION PROCEDURE

The suggested time limit for this practical examination is three hours. The examination may be administered to half the class at once to allow the examiner to play the role of client.

The candidate will be given a defective stand-alone or network computer with hardware or software problems. He or she must troubleshoot the computer.

Given a learning context describing problems encountered by the client, the client's work situation, and time and budget constraints, the candidate is expected to ask questions that will shed light on the problems (the role of the client is played by the examiner). To complete this task, the candidate must:

- read the scenario and make a note of pertinent elements
- ask the client questions and write down the answers
- assess the feasibility of the request in terms of technology, compatibility, components and software
- use relevant tests to identify the problem and its cause
- interpret the test results
- clearly state the problem
- propose a temporary solution
- select the most appropriate permanent solution
- apply the solution selected
- restore the configuration of the computer

3 MATERIALS

The candidates will have access to:

- a computer
- a variety of appropriate components
- a knowledge bank
- the appropriate tools and equipment
- diagnostic software

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
18 – Troubleshooting	Module code:	962 186
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION	YES	NO	**MARK**
1 ANALYSIS OF CLIENT'S NEEDS			
1.1 Relevant notes:			
- inclusion of all the elements	☐	☐	0 or 10
1.2 Accurate assessment of whether the request should be accepted, in terms of:			
- technology	☐	☐	
- compatibility	☐	☐	
- software	☐	☐	
- components of the system	☐	☐	
- availability of components	☐	☐	0 or 10
2 EXAMINATION OF COMPUTER			
2.1 Appropriate tests:			
- peripherals	☐	☐	
- operating system	☐	☐	
- software	☐	☐	0 or 15
3 DETERMINATION OF PROBLEM			
3.1 Accurate interpretation of test results			0 or 10
3.2 Clear formulation of the problem:			
- hardware or software components	☐	☐	
- actions	☐	☐	
- results	☐	☐	0 or 15

OBSERVATION			MARK
	YES	NO	
4 CORRECTION OF PROBLEM			
4.1 Acceptable temporary solutions:			
- feasible	☐	☐	
- safe for the system	☐	☐	
- safe for the data	☐	☐	
- time	☐	☐	
- cost	☐	☐	0 or 10
4.2 Selection of the most appropriate permanent solution:			
- feasible	☐	☐	
- safe for the system	☐	☐	
- safe for the data	☐	☐	
- time	☐	☐	
- cost	☐	☐	
- justification	☐	☐	0 or 10
4.3 Restoration of the configuration of the computer:			
- observance of sequence of operations	☐	☐	
- conformity with client's needs	☐	☐	
- solution of conflicts	☐	☐	
- absence of error messages	☐	☐	
- proper functioning	☐	☐	
- consideration of compatibility	☐	☐	
- proper functioning	☐	☐	0 or 20
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

_____

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ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
OPTIMIZE THE PERFORMANCE OF A COMPUTER (Block 1)							
1	Situate the competency with respect to the learning program.	Reason for the competency Course outline Links with other modules					
A. ANALYZE THE CLIENT'S NEEDS (Block 2)							***Duration: 20%***
2	A.1 Formulate questions related to a problem.	Types of questions to ask: - current system - desired system - formation rules - verbalization of questions - pertinent, clear questions		Precise questioning of client on the improvements expected			
2	A.2 Recognize the importance of listening attentively to the client's answers.	Conditions of attentiveness: concentration, receptivity, etc. Elements that can alter a message		Respect for client and client's request			
2	A.3 Record the information.	Selection of information Note-taking method					
2	A.4 Assess the feasibility of the request.	Technology Compatibility Software Components					
3	**A Analyze the client's needs.**			**1 Needs analysis** 1.1 Pertinent, concise notes 1.2 Accurate assessment of whether the request should be accepted 1.3 Appropriate proposals for improvement	35	 10 10 15	 PT PT PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
B. EXAMINE THE COMPUTER (Block 3)							***Duration: 25%***
2	B.1 Identify the hardware and software components.	Type of system Configuration Customization		Recognition of the type of system Examination of the configuration of the computer, taking into account the client's preferences			
2	B.2 Select and use tests to assess the feasibility of the request.	Choice of diagnostic tools or instruments Use of tests Evaluation of results Compatibility Technology		Appropriate tests			
2	B.3 Select the appropriate actions.	Valid hypotheses					
2	B.4 Provide the client with information.	Consequences of changes: - adaptation and training - time - budget		Accurate information given to client regarding: - the consequences of the change - the time required for the work			
3	**B Examine the computer.**			**2 Examination of computer** 2.1 Appropriate decision on work to be done	15	 15	 PT
C. MAKE THE CHANGE (Block 4)							***Duration: 35%***
2	C.1 Choose the tools and equipment.	Types of tools Components Software		Choice of appropriate equipment and tools			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.2 Ensure that the data are saved and retain their integrity.	Use of measures Choice of method		Use of measures to save data and ensure their integrity			
2	C.3 Uninstall components.	Organization of workspace Choice of tools Choice of method Observance of safety rules Handling of equipment		Careful handling of equipment			
2	C.4 Install, configure and modify components.	Hardware Software Organization of workspace Choice of tools Choice of method Observance of safety rules Handling of equipment					
2	C.5 Do updates.	Operating systems Software Macros		Improvement of existing macros			
2	C.6 Solve problems.	Review of Module 4		Effective problem solving			
2	C.7 Validate the changes.	Recommendations Conformity		Improvement of computer's performance Consideration of the needs formulated at the outset			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
3	**C Make the change.**			**3 Modification of computer**	50		
				3.1 Proper use of procedure for uninstalling components		10	PT
				3.2 Proper use of procedures for installing and configuring new hardware and software		15	PT
				3.3 Proper use of procedure for updating operating systems and programs		20	PT
				3.4 Observance of safety rules		5	PT
D. FINISH THE WORK (Block 5)							***Duration: 5%***
2	D.1 Update the inventory and knowledge bank.	Problems Changes Methods Procedures Etc.		Updating of inventory and knowledge bank			
2	D.2 Make recommendations to the client.	Comparison of systems: - before and after - verbal - written (reference manual) Assessment of client satisfaction		Clear, relevant, simple recommendations for use of the computer Accurate assessment of client's satisfaction			
3	**D Finish the work.**						

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
OPTIMIZE THE PERFORMANCE OF A COMPUTER (Block 6)							***Duration: 5%***
2	Recognize the importance of quality.	Quality criteria Efficiency Work in conformity with client's expectations					
2	Use documentation.	Online Paper Multimedia (English and French)					
2	Adapt to special conditions.	Incompatibility Structure variations					
3	**OPTIMIZE THE PERFORMANCE OF A COMPUTER.**			Quick execution Methodical work Effective use of reference materials Appropriate use of French Appropriate level of language used with client Patience and courtesy with clients			
OPTIMIZE THE PERFORMANCE OF A COMPUTER (Block 7)							***Duration: 10%***
				(including evaluation for the purpose of certification)			
4	**OPTIMIZE THE PERFORMANCE OF A COMPUTER.**	Formulation of more than one hypothesis with respect to the improvements to be made		Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 194 – COMPUTER OPTIMIZATION (Module 19) **Duration: 60 hours**

Statement of the competency: ***Optimize the performance of a computer***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
OPTIMIZE THE PERFORMANCE OF A COMPUTER (Block 8)							
5	**FORMULATE MORE THAN ONE HYPOTHESIS CONCERNING THE IMPROVEMENTS TO BE MADE.**	Choice Compatibility Budget Time					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 194 – COMPUTER OPTIMIZATION (Module 19)

INFORMATION ON THE EVALUATION

1 INSTRUCTIONS AND INFORMATION

This evaluation consists in evaluating the candidates' ability to optimize the performance of a computer. The examination consists of a single task.

2 EXAMINATION PROCEDURE

A time limit of three hours is suggested for this practical examination. The examination may be administered to half the class at a time.

Given a client's needs with respect to the optimization of a computer and a description of the client's work context as well as the time and budget constraints, the candidate must:

- consider the scenario and take relevant, concise notes on the client's needs
- identify the existing hardware and software in order to assess the feasibility of the request in terms of technology, compatibility, software and components
- propose the appropriate improvements
- determine the appropriate actions to take
- uninstall the components to be changed as determined in the list of actions
- install the new components
- configure the components and the peripherals
- resolve conflicts between components
- update operating systems and programs
- observe safety rules

3 MATERIALS

The candidates will have access to:

- a computer
- a list of available equipment
- a variety of appropriate components
- data sheets for the components
- installation manuals
- an operating system
- an application program
- a knowledge bank
- the appropriate tools and equipment

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
19 – Computer Optimization	Module code:	962 194
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

OBSERVATION			**MARK**
	YES	NO	
1 NEEDS ANALYSIS			
1.1 Pertinent, concise notes:			
- client's needs	☐	☐	
- budget	☐	☐	
- delivery date	☐	☐	
- field of activity	☐	☐	
- other	☐	☐	0 or 10
1.2 Accurate assessment of whether the request should be accepted, in terms of:			
- technology	☐	☐	
- compatibility	☐	☐	
- software	☐	☐	
- components of the computer	☐	☐	
- availability of components	☐	☐	0 or 10
1.3 Appropriate proposals for improvement, in terms of:			
- technology	☐	☐	
- compatibility	☐	☐	
- software	☐	☐	
- components of the computer	☐	☐	
- availability of components	☐	☐	0 or 15

OBSERVATION				MARK
		YES	NO	
2	EXAMINATION OF COMPUTER			
2.1	Appropriate decision on work to be done:			
	- logical sequence of operations	☐	☐	
	- conformity with all elements	☐	☐	0 or 15
3	MODIFICATION OF COMPUTER			
3.1	Proper use of procedure for uninstalling components:			
	- identification of element to uninstall	☐	☐	
	- shutdown of computer	☐	☐	
	- methodical work	☐	☐	
	- observance of sequence of operations	☐	☐	
	- absence of traces	☐	☐	
	- absence of error messages	☐	☐	0 or 10
	Error tolerance: two minor errors that do not interfere with the proper functioning of the system			
3.2	Proper use of procedures for installing and configuring new hardware and software:			
	- choice of expansion slot	☐	☐	
	- shutdown of computer	☐	☐	
	- methodical work	☐	☐	
	- observance of sequence of operations	☐	☐	
	- absence of error messages	☐	☐	
	- resolution of conflicts	☐	☐	
	- testing of proper functioning	☐	☐	0 or 15
	Error tolerance: two minor errors that do not interfere with the proper functioning of the system			
3.3	Proper use of procedure for updating operating systems and programs:			
	- consideration of software versions	☐	☐	
	- observance of sequence of operations	☐	☐	
	- conformity with client's needs	☐	☐	
	- solution of conflicts	☐	☐	

OBSERVATION			MARK
	YES	NO	
- absence of error messages	☐	☐	
- proper functioning	☐	☐	
- observance of compatibility	☐	☐	
- improved functioning	☐	☐	0 or 20
3.4 Observance of safety rules			0 or 5
		Total:	/ 100
Minimum performance standard: 80 marks			

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20)				**Duration: 75 hours**			
Statement of the competency: ***Provide technical support at a telephone help desk***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Block 1)							
1	Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules					
A RECEIVE AND ANALYZE THE REQUEST (Block 2)							***Duration: 25%***
2	A.1 Use a greeting procedure.	Review of Module 13, A					
2	A.2 Determine the nature of the call.	Troubleshooting General information Use Feasibility					
2	A.3 Inform the client about the service conditions.	Guarantee Number of service calls Service charges Validation					
2	A.4 Refer the client.	Other resource persons in the company Another company					
2	A.5 Ask questions about the problem.	Search for client profile (client database) Type of system Source Frequency Assessment of client's computer skill level		Precise questioning of client on: - the type of system - the source, frequency and variables of the problem			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20) **Duration: 75 hours**

Statement of the competency: ***Provide technical support at a telephone help desk***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	A.6 Enter and integrate the information into the system.	Choice of software supporting a knowledge bank Creation and use of files					
2	A.7 Demonstrate professionalism and the ability to listen.	Climate of confidence Patience Reformulation Appropriate language Etc.					
3	**A Receive and analyze the request.**			**1 Receiving of call** 1.1 Correct use of greeting procedure 1.2 Checking as to whether the request can be accepted 1.3 Establishment of a relationship of trust with the client 1.4 Relevant, concise notes entered in the system	50	 15 10 15 10	 PS PS PS PT
B. DIAGNOSE THE PROBLEM (Block 3)							***Duration: 25%***
2	B.1 Identify the problem.	Subjective elements Objective elements					
2	B.2 Assess the consequences of a problem.	Cost Time On-site service Aggravation of problem Review of Module 4		Accurate assessment of the consequences of the problem and of its priority			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20) **Duration: 75 hours**

Statement of the competency: ***Provide technical support at a telephone help desk***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	B.3 Determine priorities.	Questions Error messages Sequence of operations					
2	B.4 Formulate hypotheses about the probable causes of a problem.	Definition and components of a hypothesis Rules for formulating hypotheses		Accurate interpretation of client's answers Formulation of pertinent hypotheses			
2	B.5 Test the hypotheses formulated.	Gathering of technical data Determination of points to test Determination of order of tests		Proper use of the "step by step" procedure with the client in order to test the hypotheses Accurate assessment of the client's computer skill level			
2	B.6 Use remote control software.	Review of Module 16, E		Effective use of the remote control software			
2	B.7 Identify the cause of the problem.	Description of the situation		Determination of the exact cause of the problem			
3	**B Diagnose the problem.**			**2 Identification of problem** 2.1 Accurate assessment of the consequences of the problem and of its priority, and formulation of relevant hypotheses 2.2 Effective use of the remote control software	25	 15 10	 PT PT

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20) **Duration: 75 hours**

Statement of the competency: ***Provide technical support at a telephone help desk***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
C. SOLVE THE PROBLEM (Block 4)							***Duration: 15%***
2	C.1 Formulate possible temporary solutions.	Short-term solution Presentation of solution and client's approval					
2	C.2 Tell the client how the problem will be solved.	Step by step Taking control		Selection of the most appropriate solution using the following methods: - "step by step" with the client - taking control of the remote computer			
2	C.3 Establish the operating rules with the client.	Observance of instructions Sequence of operations Testing of result		Proper use of the procedure for situations requiring action at another level: - choice of a resource person - transmission of the data on the problem - follow-up of the work			
2	C.4 Identify the limits of their level of action.	Competencies Duties					
2	C.5 Identify the level of action required.	Computing support technician Technician Department head Etc.		Proper testing of the results Effective solution of the problem			
2	C.6 Transmit the data related to the problem.	Verbal Paper Electronic					

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20) **Duration: 75 hours**

Statement of the competency: ***Provide technical support at a telephone help desk***

COMPETENCY		LEARNING		EVALUATION			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
2	C.7 Record the information about the work done.	Paper Electronic Transfer to knowledge bank Follow-up with client					
3	**C Solve the problem.**			**3 Problem solving** 3.1 Proposal of acceptable temporary solutions	10	 10	 PT
D. FINISH THE WORK (Block 5)							***Duration: 5%***
2	D.1 Assess client satisfaction.	Appropriate questions Active listening		Accurate assessment of client's satisfaction			
2	D.2 Update the banks.	Credentials, consistency Relevance, clarity, simplicity		Updating of knowledge bank			
3	**D Finish the work.**			**4 Completion of work** 4.1 Proper completion of work with the client	15	 15	 PS
PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Block 6)							***Duration: 25%***
3	**PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK.**			Effective use of telecommunications facilities Effective use of reference materials Correct problem-solving procedure Quick decision making Simple, precise instructions given to client			

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20)							**Duration: 75 hours**
Statement of the competency: ***Provide technical support at a telephone help desk***							
COMPETENCY		**LEARNING**		**EVALUATION**			
Ph*	**Learning Focuses**	**Guidelines**	**Activities (References)**	**Evaluation Indicators and Criteria**	**W_I**	**W_C**	**St**
				Concern for quality of English Acceptable use of French Clear enunciation Patience and courtesy with client Keyboarding speed of 40 words per minute Observance of ergonomic rules			
PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Block 7)							***Duration: 5%***
							(including evaluation for the purpose of certification)
4	**PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK.**			Refer to all of the above criteria for the purpose of formative evaluation. Refer to all of the above weighted criteria for the purpose of evaluation for certification.			
PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Block 8)							
5	**PROVIDE TECHNICAL SUPPORT AT A TELEPHONE HELP DESK.**						

* Ph: acquisition phase (1-exploration; 2-basic learning; 3-practice; 4-transfer; 5-enrichment)
A,B,C…: elements of the competency (specifications of the first-level operational objective)
W_I: relative weighting of indicators; W_C: relative weighting of criteria; St: evaluation strategies (PS: process; PT: product; T: theory)

COMPUTING SUPPORT (5729)

962 205 – TECHNICAL SUPPORT AT A TELEPHONE HELP DESK (Module 20)

INFORMATION ON THE EVALUATION

1 INFORMATION AND INSTRUCTIONS

This examination consists in evaluating the candidates' ability to provide technical support at a telephone help desk.

2 EXAMINATION PROCEDURE

This examination consists of two tasks. The suggested time limit for Task 1 is ten minutes of conversation and 20 minutes to formulate the hypothesis. The suggested time limit for Task 2 is one hour.

Task 1: Receiving of call (1.1, 1.2, 1.3, 1.4, 2.1)

Given a scenario resembling a call centre as closely as possible, the candidate must carry on a telephone conversation with a client using a computer and a knowledge bank. Another candidate will play the role of the client according to a pre-established scenario. The conversation (in English or French) should be taped and should last 10 minutes. The candidate must correctly use the greeting procedure, assess the feasibility of the request and enter relevant, concise notes into the system. He or she must also assess the consequences of the problem and its priority. The candidate must formulate in writing a valid hypothesis about the cause of the problem.

Task 2: Use of remote control software (2.2, 3.1, 4.1)

The candidates will be paired up, one playing the role of the client, the other the computing support technician. Then they will switch roles. Each one will have access to a computer. The client will explain the type of computer problem and the computing support technician must access the client's computer and configure the remote control software. The candidate must perform the operations necessary to solve the problem. The client will answer the computing support technician's questions. The candidate must propose temporary solutions to solve the problem and correctly test the results.

EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
20 – Technical Support at a Telephone Help Desk	Module code:	962 205

Candidate's name: _____

School: _____ RESULT:

Permanent code: _____ PASS ☐ FAIL ☐

Date of examination: _____

Examiner's signature: _____

OBSERVATION	YES	NO	MARK
TASK 1: RECEIVING OF CALL			
1.1 Correct use of greeting procedure:			
- name of company	☐	☐	
- name of computing support technician	☐	☐	
- request for name of client	☐	☐	
- verification of client information	☐	☐	0 or 15
1.2 Checking as to whether the request can be accepted:			
- level of expertise of computing support technician	☐	☐	
- nature of problem	☐	☐	
- hardware	☐	☐	
- software	☐	☐	
- installation policy	☐	☐	0 or 10
1.3 Establishment of a relationship of trust with the client			
- language level	☐	☐	
- ability to listen	☐	☐	
- verification that the client understands the instructions	☐	☐	
- consideration of user's computer skill level	☐	☐	0 or 15

OBSERVATION			MARK
	YES	NO	
2.1 Accurate assessment of the consequences of the problem and of its priority, and formulation of relevant hypotheses			
- realistic	☐	☐	
- compatible	☐	☐	
- consistency of consequences	☐	☐	0 or 15
1.4 Relevant, concise notes entered in the system:			
- nature of problem	☐	☐	
- team	☐	☐	
- software	☐	☐	
- action taken	☐	☐	
- result	☐	☐	0 or 10
TASK 2: USE OF REMOTE CONTROL SOFTWARE			
2.2 Effective use of the remote control software:			
- ensure communication via the local network	☐	☐	
- take control of the computer	☐	☐	
- solve the problems	☐	☐	
- check the profile	☐	☐	
- restore the configuration	☐	☐	0 or 10
3.1 Proposal of acceptable temporary solutions	☐	☐	0 or 10
4.1 Proper completion of work with the client:			
- assess client satisfaction	☐	☐	
- appropriate procedure for terminating the discussion	☐	☐	
- updating of knowledge bank	☐	☐	0 or 15
		Total:	/ 100

Minimum performance standard: 80 marks

Comments: _____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 218 – PRACTICUM: TECHNICAL SUPPORT (Module 21) **Duration: 120 hours**

Statement of the competency: ***Ensure the proper operation of computers in the workplace***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: PREPARATION FOR THE PRACTICUM (Block 1)					***Duration: 5%***
1.1 Situate the competency with respect to the training program.	Reason for the competency Course outline Links with other modules				
1.2 Locate information about the company.	Purpose of the company Organizational chart Operating procedure Name and duties		**1 Prepare for the practicum.** 1.1 Gather information on the company and the tasks to be carried out as trainees.	20	20
1.3 Find and compile information about the company's computer equipment.	Technology Environment (network or local) Software				
1.4 Identify the tasks to be accomplished.	Trainees Employers				
1.5 Inform the person in charge of the practicum of their areas of interest.	Local vs. network Individual vs. team Optimization vs. installation Etc.				
1.6 Validate the tasks to be accomplished.	Trainee Employer (practicum supervisor)				
1.7 Set personal objectives.	Current techniques New technologies		Prepare a document describing their interests, skills and objectives in computing support.		

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 218 – PRACTICUM: TECHNICAL SUPPORT (Module 21) **Duration: 120 hours**

Statement of the competency: ***Ensure the proper operation of computers in the workplace***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 2: OBSERVING AND CARRYING OUT WORK ON COMPUTER EQUIPMENT (Block 2)					***Duration: 90%***
2.1 Observe the work environment.	Socioeconomic environment Structure of the company Equipment and technological evolution Working conditions and labour relations		**2 Observe and carry out work on computer equipment.** 2.1 Show interest in the work by taking initiative and asking questions.	40	20
2.2 Perform various tasks related to the assembly and optimization of computers.	Review of Modules 11, 18 and 19 Assigned tasks		2.2 Carry out the tasks according to instructions and regularly check the quality of their work.		20
2.3 Help solve problems.	Provision of help in solving problems Application of the solution				
2.4 Assess the satisfaction of the person in charge of the practicum with the work done.	Productivity Quality				
PHASE 3: EVALUATING THEIR EXPERIENCE IN THE WORKPLACE (Block 3)					***Duration: 5%***
3.1 Relate their observations on the work environment and the tasks they carried out in the company.	Daily use of log Tasks Equipment Technology Human relations Atmosphere Etc.		**3 Describe their experience as trainees** 3.1 Describe their experience as trainees.	40	20

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 218 – PRACTICUM: TECHNICAL SUPPORT (Module 21)			**Duration: 120 hours**		
Statement of the competency: ***Ensure the proper operation of computers in the workplace***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.2 Compare their initial views with the reality of the workplace.	Identification of differences with respect to: - tasks and operations - working conditions and conditions under which tasks are performed - expected performance				
3.3 Identify their strengths and weaknesses.	Tasks Teamwork Independent work (individual)		3.2 State their strengths and weaknesses in computing support work.		20
3.4 List the competencies to be developed or improved.	Tasks performed Other tasks Knowledge, behaviours, skills				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

COMPUTING SUPPORT (5729)

962 218 – PRACTICUM: TECHNICAL SUPPORT (Module 21)

INFORMATION ON THE EVALUATION

This examination consists in evaluating the candidates' ability to ensure the proper operation of computers in the workplace.

Evaluation of the candidates' participation will be based on data gathered throughout the practicum. A final judgment should not be made until the end of the corresponding phase in the learning context.

PHASE 1: PREPARATION FOR THE PRACTICUM

1.1 GATHER INFORMATION ON THE COMPANY AND THE TASKS TO BE CARRIED OUT AS TRAINEES

The candidate must describe the practicum position (type of company, number of employees, sector of activity, the technological environment and the organization) as well as the tasks he or she will perform. This assignment should be submitted before the practicum begins.

PHASE 2: OBSERVING AND CARRYING OUT WORK ON COMPUTER EQUIPMENT

2.1 SHOW INTEREST IN THE WORK BY TAKING INITIATIVE AND ASKING QUESTIONS

The candidate must keep a log throughout the practicum. He or she must record the initiatives taken and the questions asked of the practicum supervisor. The candidate must identify five new techniques or items of knowledge acquired during the practicum.

2.2 CARRY OUT THE TASKS ACCORDING TO INSTRUCTIONS AND REGULARLY CHECK THE QUALITY OF THEIR WORK

The candidate must record the work done every day in his or her log.

PHASE 3: EVALUATING THEIR EXPERIENCE IN THE WORKPLACE

3.1 DESCRIBE THEIR EXPERIENCE AS TRAINEES

At the end of the practicum, the candidate must write a three-page text on his or her experience. He or she may base the text on his or her log. The text could include the following points: practicum dates and terms and conditions, information about the company, description of the sector or department, the working climate, equipment, the tasks performed and the candidate's degree of satisfaction with the practicum and reasons why he or she is satisfied or dissatisfied with the experience. The candidate must indicate whether the practicum helped him or her decide whether to pursue a career in computing support.

3.2 STATE THEIR STRENGTHS AND WEAKNESSES IN COMPUTING SUPPORT WORK

The candidate must identify two of his or her strengths and two weaknesses. He or she must explain how these strengths and weaknesses became apparent during the practicum and how he or she can use or improve them.

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
21– Practicum: Technical Support	Module code:	962 218
Candidate's name: _____		
School: _____	RESULT:	
Permanent code: _____	PASS ☐	FAIL ☐
Date of examination: _____		
Examiner's signature: _____		

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 1: PREPARATION FOR THE PRACTICUM		
1.1 Gather information on the company and the tasks to be carried out as trainees: - type of company - number of employees - activity sector - technological environment - tasks assigned	☐	☐
PHASE 2: OBSERVING AND CARRYING OUT WORK ON COMPUTER EQUIPMENT		
2.1 Show interest in the work by taking initiative and asking questions	☐	☐
2.2 Carry out the tasks according to instructions and regularly check the quality of their work	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 3: EVALUATING THEIR EXPERIENCE IN THE WORKPLACE		
3.1 Describe their experience as trainees	☐	☐
3.2 State their strengths and weaknesses in computing support work	☐	☐
Pass/fail conditions: 4 YESes out of a possible 5, and a YES for components 1.1, 2.2 and 3.2		

Comments: _____

_____

_____

ANALYSIS AND PLANNING TABLES
COMPUTING SUPPORT (5729)

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22) **Duration: 120 hours**

Statement of the competency: ***Provide service to clients in the workplace***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
PHASE 1: PREPARATION FOR THE PRACTICUM (Block 1)					***Duration: 5%***
1.1 Locate information about the company.	Purpose of the company Organizational chart Operating procedure Name and title of the person responsible for the practicum in the company		**1 Prepare for the practicum.** 1.1 Gather information on the company.	30	20
1.2 Learn about the company's service to clients.	Personnel Equipment Levels				
1.3 Locate and compile information about policies and procedures.	Agreements Internal documentation Directions Etc.				
1.4 Locate and compile information about the company's computer equipment.	Technology Environment (local or network) Software Review of Module 5				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22) **Duration: 120 hours**

Statement of the competency: ***Provide service to clients in the workplace***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.5 Inform the person in charge of the practicum of their choice of tasks.	Local vs. network Specialist vs. individual First respondent vs. other Follow-up (after-sales service) Software vs. installation Alone vs. teleconference				
1.6 Inform the person in charge of the practicum of their competencies.	Language Level of service Communication skills				
1.7 Learn about the client profile.	Specialists Individuals Frequency of calls Follow-up (after-sales service) Etc.				
1.8 Learn about the services to be provided to clients.	Counter service Telephone, fax Internet Consulting service Computing support		1.2 Prepare a document describing their interests, skills and objectives in providing service to clients.		10
1.9 Identify their limits and the conditions for providing services.	Tasks defined Client aware of status				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22)			**Duration: 120 hours**		
Statement of the competency: ***Provide service to clients in the workplace***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
1.10 Set personal objectives.	Current techniques New technologies Interpersonal relations				
PHASE 2: OBSERVING AND PROVIDING SERVICE TO CLIENTS (Block 2)				***Duration: 90%***	
2.1 Observe the work environment.	Socioeconomic environment Structure of the company Equipment and technological evolution Working conditions and labour relations				
2.2 Receive requests for clients and meet needs.	Review of Module 20, A.1, A.2 and A.3		**2 Provide service to clients.** 2.1 Apply the policies and procedures of the company.	40	 20
2.3 Forward clients' requests to the appropriate resource persons.	Identify the limits of their level of action Competencies Duties				

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22)			**Duration: 120 hours**		
Statement of the competency: ***Provide service to clients in the workplace***					
COMPETENCY	**LEARNING**		**EVALUATION**		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
2.4 Follow up on work done.	Paper Electronic Transfer to knowledge bank Follow-up with clients Record of information Client satisfaction Daily use of log		2.2 Regularly assess client satisfaction.		10
2.5 Control stressful situations.	Time management Priorities Languages Time-consuming activities Etc.		2.3 Adapt their behaviour and attitudes according to the situation.		10
PHASE 3: EVALUATING THEIR EXPERIENCE IN WORKING WITH CLIENTS (Block 3)				***Duration: 5%***	
3.1 Relate their observations about the work environment and the tasks performed in the company.	Reference to log Tasks Equipment Technology Human relations Atmosphere Etc.		**3 Evaluate their experience in working with clients.** 3.1 Describe their experience as trainees.	30	 10

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22) **Duration: 120 hours**

Statement of the competency: ***Provide service to clients in the workplace***

COMPETENCY	LEARNING		EVALUATION		
Learning Focuses	**Guidelines**	**Activities (References)**	**Participation Indicators and Criteria**	**W_I**	**W_C**
3.2 Assess the quality of their service to clients.	Discussion with supervisor Frequency of calls from the same client Comments				
3.3 Assess the quality of their communication.	Clients Colleagues Review of Module 7				
3.4 Assess their ability to act in tense problem situations.	Review of Module 7 (learning focus 5.4)				
3.5 Assess the satisfaction of the person in charge of the practicum with respect to the work done.	Productivity Quality				
3.6 Compare their initial views with the reality of the workplace.	Identification of differences with respect to: - tasks and operations - working conditions and conditions related to the performance of tasks - expected performance				
3.7 List their strengths and weaknesses.	Tasks Teamwork Independent work (individual)		3.2 State their strengths and weaknesses in providing service to clients.		20
3.8 List the competencies to be developed or improved.	Tasks performed Other tasks Knowledge, behaviour, skills				

* W_I: relative weighting of indicators; W_C: relative weighting of criteria

COMPUTING SUPPORT (5729)

962 228 – PRACTICUM: SERVICE TO CLIENTS (Module 22)

INFORMATION ON THE EVALUATION

This examination consists in evaluating the candidates' ability to provide service to clients in the workplace.

Evaluation of the candidates' participation will be based on data gathered throughout the practicum. A final judgment should not be made until the end of the corresponding phase in the learning context.

PHASE 1: PREPARATION FOR THE PRACTICUM

1.1 GATHER INFORMATION ON THE COMPANY AND THE TASKS TO BE CARRIED OUT AS TRAINEES

The candidate must describe the type of company, its organization, the number of employees, the sector of activity, the technological environment and the tasks he or she will perform.

1.2 PREPARE A DOCUMENT DESCRIBING THEIR AREAS OF INTEREST, SKILLS AND OBJECTIVES IN PROVIDING SERVICE TO CLIENTS

The candidate must submit a one- or two-page text describing his or her interests, skills and objectives in customer service and how the practicum will meet his or her expectations.

PHASE 2: OBSERVING AND PROVIDING SERVICE TO CLIENTS

2.1 APPLY THE POLICIES AND PROCEDURES OF THE COMPANY

The candidate must keep a log throughout the practicum and record how he or she applied the policies and procedures of the company. At the end of the practicum, the candidate must submit to the examiner a one-page report on the policies and procedures specific to the company.

2.2 REGULARLY ASSESS CLIENT SATISFACTION

After having provided service to clients, the candidate must enquire as to the client's satisfaction. The candidate must note in his or her log the different attempts to determine client satisfaction.

2.3 ADAPT THEIR BEHAVIOUR AND ATTITUDES ACCORDING TO THE SITUATION

In his or her practicum report, and referring to his or her log, the candidate must provide information about certain situations in which he or she had to adapt his or her behaviour and attitudes in order to provide good service.

PHASE 3: EVALUATING THEIR EXPERIENCE IN WORKING WITH CLIENTS

3.1 DESCRIBE THEIR EXPERIENCE AS TRAINEES

The candidate must write a three-page text on his or her experience. He or she may base the text on his or her log. The text may include the following points: practicum dates and terms and conditions, information about the company, description of the sector or department, the working climate, the tasks performed, and the candidate's degree of satisfaction with the practicum and reasons why he or she is satisfied or dissatisfied with the experience. The candidate must indicate whether the practicum helped him or her decide whether to pursue a career in computing support.

3.2 STATE THEIR STRENGTHS AND WEAKNESSES IN PROVIDING SERVICE TO CLIENTS

In his or her practicum report, the candidate must identify two personal strengths and two weaknesses. He or she must explain how these strengths and weaknesses became apparent during the practicum and how he or she can use or improve them.

PARTICIPATION EVALUATION FORM

COMPUTING SUPPORT	Program code:	5729
22– Practicum: Service to Clients	Module code:	962 228

Candidate's name: _____

School: _____ RESULT:

Permanent code: _____ PASS ☐ FAIL ☐

Date of examination: _____

Examiner's signature: _____

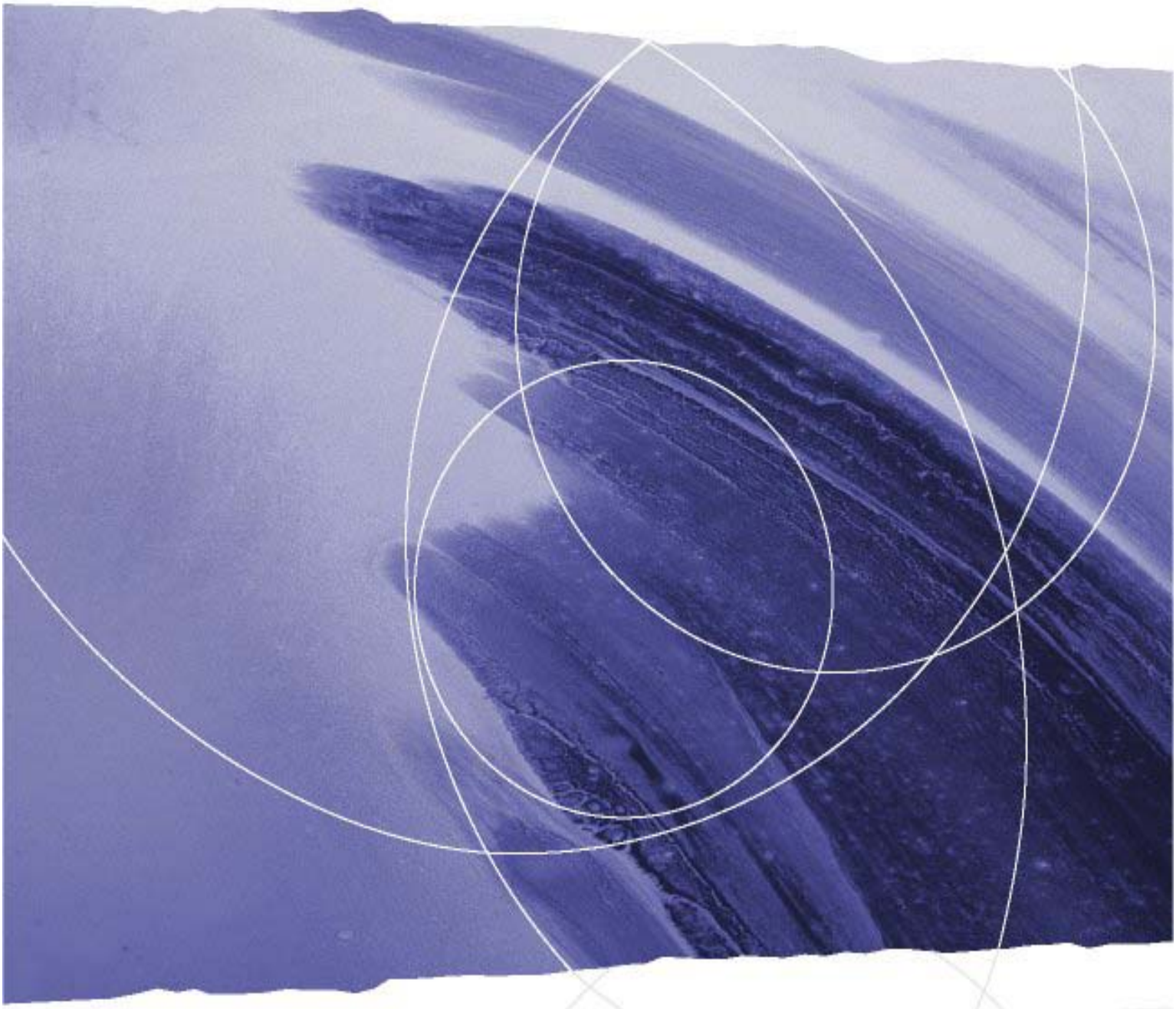
PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 1: PREPARATION FOR THE PRACTICUM		
1.1 Gather information on the company	☐	☐
1.2 Prepare a document describing their interests, skills and objectives in providing service to clients	☐	☐
PHASE 2: PROVIDING SERVICE TO CLIENTS		
2.1 Apply the policies and procedures of the company	☐	☐
2.2 Regularly assess client satisfaction	☐	☐
2.3 Adapt their behaviour and attitudes according to the situation	☐	☐

PARTICIPATION COMPONENTS	RESULT YES	RESULT NO
PHASE 3: EVALUATING THEIR EXPERIENCE IN WORKING WITH CLIENTS		
3.1 Describe their experience as trainees	☐	☐
3.2 State their strengths and weaknesses in providing service to clients	☐	☐
Pass/fail conditions: 5 YESes out of a possible 7, and a YES for components 1.1, 2.1, 3.2.		

Comments: _____

_____

_____



Éducation,
Loisir et Sport
Québec

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