Information and Communication Technology Syllabus

Grade 7

To be implemented from 2018

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1. Introduction

The Information and Communication Technology sector is acknowledged worldwide as a tool that could be used to increase the productivity, efficiency and effectiveness of work. However, in Sri Lanka, the level of ICT skills of the majority of the students is not adequate to meet the current requirements of business and industry. This is mainly due to lack of opportunities for students to study ICT related subjects in the school curriculum.. The student should learn at school a wide variety of competencies for different needs of life in the changing world. They should have various views and different ways to continue studies and proceed to employment.

At present ICT is taught as a subject at G.C.E. (O/L) in a limited number of schools and at G.C.E. (A/L) in even less number of schools in Sri Lanka. In this situation students officially start to learn ICT at Grade 10 and as a result a heavy load of subject matter has to be included in ICT at G.C.E. (O/L). Distribution of ICT subject matter over lower Grades will definitely reduce this load and provide students with opportunity to learn ICT at early stages of school life. Therefore it has been decided to implement ICT as a subject from Grade 6 onward.

The time allocated for ICT at Grade 7 is limited to 30 Periods (40 minutes per Period) per year only. During this period, learning is more focused on practical aspects of the subject with limited amount of theoretical content. This is a continuation of the Grade 6 ICT curriculum. More emphasis is placed on programming concept and inclusion of simple programming of hardware devices is also introduced at Grade 7. Students are expected to build ICT concepts through interaction with hardware and software of ICT.

2. National Goals

1. Based on the concept of respecting human values and understanding the differences between the Sri Lankan multi-cultural society, building up the nation and confirming the identity of Sri Lanka by promoting national integrity, national unity, national coherence and peace
2. While responding to the challenges of the dynamic world, identifying and conserving the National heritage.
3. Creating an environment which comprises of the conventions of social justice and the democratic life to promote the characteristics of respecting the human rights, being aware of the responsibilities, concerning each other with affectionate relationships.
4. Promoting a sustainable life style based on the people's mental and physical well-being and the concept of human values
5. Promoting the positive feelings needed for balanced personality with the qualities of creative skills, initiative, critical thinking and being responsible
6. Through education, developing the human resources, needed for the progress of the well-being of an individual, the nation as well as the economic growth of Sri Lanka.
7. Preparing the people for the changes that occur in a rapidly changing world by adapting to it and controlling them; developing abilities and potentialities of people to face the complex and unexpected occasions.
8. Sustaining the skills and attitudes based on justice, equality, mutual respect which is essential to achieve a respectable place in the international community.

National Education Commission Report (2003)

3. Basic Competencies

The competencies promoted though the education mentioned below might help to achieve the above mentioned National Goals.

(i.) Competencies in Communication

This set of competencies is made up of four subsets - Literacy, Numeracy, Graphics and Information & Communication Technology skills:

Literacy : Carefully listening, speaking clearly, reading for comprehension, writing clearly and accurately.

Numeracy : Using numbers to count, calculate, code and to measure, matter, space and time.

Graphics : Making sense of line and form, expressing and recording essential data, instructions and ideas with line, form, color, two and three-dimensional configurations, graphic symbols and icons

ICT Competencies: Knowledge on computers, and the ability to use the ICT skills at learning or work as well as in the private life

(ii.) Competencies relating to the Personality Development

- Generic skills such as creativity, divergent thinking, initiative, decision making, problem-solving, critical and analytical thinking, team work, inter-personal relationships, discovering and exploring
- Values such as integrity, tolerance and respect for human dignity.
- Cognition

(iii.) Competencies relating to the Environment.

This set of competencies relates to the Social, Biological and Physical Environments.

Social Environment: Awareness, sensitivity and skills linked to being a member of society, social relationship, personal conduct, general and legal conventions, rights, responsibilities, duties and obligations.

Biological Environment: Awareness, sensitivity and skills linked to the living world, man and the ecosystem, the trees, forests, seas, water, air and life - plant, animal and human life.

Physical Environment: Awareness, sensitivity and skills relating to space, energy, fuels, matter, materials and their links with human living, food, clothing, shelter, health, comfort, respiration, sleep, relaxation, rest, wastes and excretion, media of communication and transport.
Included here are the skills in using tools to shape and for materials for living and learning.

(iv.) Competencies relating to preparation for the world of work

Employment related skills to maximize their potential and to enhance their capacity to contribute to economic development; to discover their vocational interests and aptitudes; to choose a job that suits their abilities and; to engage in a rewarding and sustainable livelihood

(v.) Competencies relating to religion and ethics

This set of competencies deals with values and attitudes. It is essential for individuals to assimilate values, so that they may function in a manner consistent with the ethical, moral and religious modes of conduct, rituals, practices in everyday living, selecting the most appropriate.

(vi.) Competencies in play and use of leisure

Competencies that link up with pleasure, joy, emotions and such human motivations. These find expression in play, sports, athletics and leisure pursuit of many types. These also link up with such values as cooperation, team work, healthy competition in life and work. Here are included such activities as are involved in aesthetics, arts, drama, literature, exploratory research and other creative modes in human living

(vii.) Competencies relating to 'Learning to Learn'.

These competencies flow directly from the nature of a rapidly changing, complex and interdependent and crowded world. Whatever one learns, that learning will need updating and review. This requires that one should be aware of, sensitive and skilful in sustained attention, and be willing to persevere and attend to details that matter in a given situation.

4. Aims of the Information and Communication Technology (ICT) Curriculum

Such a surge in the growth, development and the application of Information Communication Technology as today has never been experienced before. The importance and relevance of ICT to almost all walks of life today has made it all the more important that knowledge and expertise, both practical and theoretical, of its application, should begin at the very grassroots level of education.

Aims to be achieved by the course are as follows:

- Develop basic skills useful to access ICT resources.
- Develop basic concepts in programming.
- Inculcate basic good practices in the use of ICT resources
- Inculcate basic computer literacy and develop a base for further pursuit of Information Technology and Communication Technology studies.

5. How the national goals are addressed in this curriculum

National Goals	Curriculum Aims	Curriculum Objectives (competencies)
Promoting the positive feelings needed for balanced personality with the qualities of creative skills, initiative, critical thinking and being responsible	Develop basic concepts in programming.	Develops simple programs (5)
Through education, developing the human resources, needed for the progress of the wellbeing of an individual, the nation as well as the economic growth of Sri Lanka.	• Develop basic skills useful to access ICT resources. • Inculcate basic good practices in the use of ICT resources	Identifies the organization of the Computer (1) Explores the functions of Operating System (2) Use of word-processing software in day today activities. (4) Uses software package for physical computing to implement programming logic(6) Uses Internet for Information And Communication (7)
Preparing the people for the changes that occur in a rapidly changing world by adapting to it and controlling them; developing abilities and potentialities of people to face the complex and unexpected occasions.	Inculcate basic computer literacy and develop a base for further pursuit of Information Technology and Communication Technology studies.	Uses various Safety precautions in a computer lab. (3)

Grade 7 Syllabus **Information and Communication Technology**				
Competency	Competency level	Content	Learning outcomes	Duration/ Periods
1. Identifies the organization of the Computer	1.1 Identifies the components of a CPU	• Different types of CPU	i. Explains functions of Arithmetic and Logical Unit (ALU) and Control Unit (CU)	01
	1.2 Describes the evolution of computers	• Brief history of Processor Element (Vacuum Tube, Transistor, IC etc.) : Clock Speed, Size, Heat, Power Consumption, Cost etc.	i. Lists land marks of CPU development ii. Identifies the change of processor speed and other features	01
2. Explores the functions of Operating system	2.1 Describes different types of operating systems	• Windows, Mac OS, Linux, Android, mobile OSs	i. Lists various operating systems ii. Identifies operating systems in various devices	01
	2.2 Identifies computer storage as a collection of digital data on different media	• Hard drive, Flash Drive, CD, DVD	i. Describes the usage of Hard drive, Flash Drive, CD, DVD	01
	2.3 Creates folders Save/open/edit/ delete/ re-name/ copy/move/ files	• Manipulation of Folders and Files o Copy, and move files from one storage unit to another	i. Saves and opens files in folders ii. Organizes files as per purposes	02
	2.4 Explores file properties	• Identification of size, type, modified date	i. Explains properties of files	01

3. Uses various Safety precautions in a computer lab	3.1 Uses various precautionary methods to protect physical components of a computer	• Surge protection and protection against voltage drops (Fuses and UPS) • Protection against physical damages (dust, humidity, insects etc.) • Protection against overheating inside the computer	i. Identifies hardware security issues. ii. Take precautions to minimize risk to hardware components	01
	3.2 Uses various precautionary methods to protect software components of a computer.	• Use of Anti-virus and other measures against malware. • Access Controls (physical locks and passwords)	i. Identifies software security issues ii. Take precautions to minimize damages to software	01
4. Uses text editing software to type effectively	4.1.Uses computers efficiently by developing typing skills	• Use of proper techniques in typing (Touch Typing) • Use of typing practice software to develop typing skill	i. Demonstrates skills in English keyboard ii. Demonstrates skills in Sinhala/Tamil keyboard	01
5. Uses programming language to develop simple programs (Using Scratch)	5.1 Analyzes simple problems by decomposing and connecting them logically .	• Use of flow charts. o Sequence o Selection (Concept of Selection) o Iteration (Concept of Iteration)	i. Demonstrates critical and analytical thinking techniques ii. Describes sequence in flowcharts iii. Demonstrates the use of sequence in flowcharts appropriately	02
	5.2 Develops simple programs using visual development environment (Using Scratch)	• Introduction to Interactive Development Environment – Interface (IDE) to develop computer programs • Developing simple programs(sequence type) using visual supports of programming language (using an Interface) Specially designed to teach programming to children	i. Uses Scratch programming IDE ii. Applies basic instructions sequentially to develop simple programs	03

	5.3 Describe the concept of variables in programs	• Definition of variable • Use of variables in programs	i. Describes the use of variables in a program ii. Writes programs with variables appropriately	02
	5.4 Identifies the concept of errors in a program as bugs	• Introduction of an error to an error-free programs and observation of the output	i. Describes the effect of errors in a program and takes precautions to avoid errors	01
6. Uses Presentation software to create presentation	6.1 Uses basic functions of Presentation software in creating a presentation.	• Create, open, save and close a Presentation • Add Slide • Inserting files/objects (text, picture, shapes, clip art, word art etc.) • Formatting of Text • Add Multimedia and charts to a slide • Slide Designs • Move, duplicate, Hide and Delete Slides • Slide transitions	i. Create presentation using Presentation software	05
7. Uses the services of the Internet and develops web pages	7.1 Uses resources available in the Internet (text, images, audios, videos etc.)	• WWW, URL • Download images, audio, video etc. • Accessing earth maps • Trusted and untrusted websites • Authentic and reliable information	i. Uses Internet for information gathering ii. Identifies trusted and untrusted websites iii. Identifies authentic and reliable information	01
	7.2 Uses offline (E-mail) and online (Chat) Communication	• Web based free E-mail • Creation of accounts. o Use of e-mail: Subject, To, Bcc, Cc, Attachments, Forward, Inbox, Outbox. Draft, Trash, Spam, Reply • Online conferencing	i. Communicates via e-mails ii. Communicates via online conferencing	02

	7.3 Develops web pages using HTML	• Creation of a web page using text, images o Text formatting o Colors o Lists	i. Designs a simple website ii. Creates a simple website	02
	7.4 Uses the Internet safely, securely and ethically	• Protection against unauthorized access and malware o Hacking o Virus attacks o Software piracy • Protection in using the Internet against crime o Cyber bullying o Stealing others data • Online safety precautions against unknown parties (Email, social media etc.)	i. Uses the Internet safely ii. Uses the Internet securely iii. Uses the Internet ethically	02
			Total	30