

904

Introduction to Computers

(New syllabus effective from June 2013 for 9th, 11th and from June 2014 for 10th, 12th standards)

Background

With a mission to spread computer literacy on a fast track, the Gujarat Government has provided latest computer equipment to more than 6000 aided schools under the ICT@School program. As a new policy initiative all the schools are given the Ubuntu (a variant of Linux) Operating System and other Open Source software packages so that schools can freely use and exchange the software without bothering about licensing issues. Since earlier text books were largely based on proprietary software, there is a need to revise the current syllabus. This has also become necessary in view of the fact that the 8th standard is now transferred to primary section. Therefore new content is required to be developed for 9th to 12th standard in a phased manner based on the open source Operating System and compatible open source software tools for various topics of computer studies.

Coverage in the new syllabus

The student, though may have some primary education in computers during earlier standards, will comfortably learn the Linux operating system, the open office package and applications of Internet in 9th standard. In 10th standard, the student will be exposed to Scripting language HTML, Spreadsheet operations and Problem solving through C language.

In 11th standard, the student will learn Multimedia tools, Linux commands with scripting and open source Database system. Some important technology trends will also be covered in this standard. In 12th standard, they will be shown how to design websites, fundamentals of e-commerce, object oriented concepts and the open source programming tool Java. Some other useful open source tools for different applications will also be covered in 12th standard.

Although the Information Technology as well as Higher Education scenarios both have also undergone some changes in last few years, yet a common text books for this subject for 11th and 12th standard catering to the interests of students from all streams and at the same time covering important introductory topics in this discipline will be really useful.

With this outline of essential topics, the proposed curriculum at Secondary and Higher Secondary stage will attempt to:

- develop essential skills in using computers with open source software for information search and other office applications.
- make student learn how to use multimedia tools and develop simple websites.
- develop problem solving skills and natural curiosity and creativity.
- realise and relate the importance of interfacing Computer Studies with other disciplines.
- make the student aware about the trends in computer science/applications.
- make the student aware about the Computer Studies as a career option to be chosen after 12th standard.

Gujarat Secondary and Higher Secondary Education Board, Gandhinagar

Proposed New Syllabus of Computer Science Standard-9

Total Hours : Theory : 35 Practical : 35

Topic No.	Topic	Theory Hours	Practical Hours
1.	Introduction to computers	5	Nil
2.	Concepts of Operating System and its components	10	10
3.	Introduction to word processing using Open source software	7	8
4.	Introduction to Presentation Software	5	8
5.	Introduction to Internet	8	9

1. Introduction to computers

1.1 What is computer ?

1.2 Terminologies of Computer: Hardware, Software (Open source and Proprietary, Application/System), Firmware

1.3. Components of computer.

1.4. Types of Computers including Laptops, mobile and tablets

1.5. Data representation

1.6. Advantages of computer.

1.7. Applications of computers.

1.8. Brief history of generation of computers.

2. Concepts of Operating System and its components

2.1. What is operating system? Defining OS by taking an analogy. Need of operating system in brief.

2.2. Different types of OS: Categorization of OS based on working environment and devices (Desktop OS, Server OS, Mobile OS (Android)).

2.3. Services of operating system: Functions of OS in brief.

2.4. Terminologies of Ubuntu Linux.

2.5. The Unity/Gnome Interface: Desktop, Launcher, Panel, Dash

2.6. How to work with Ubuntu Linux.

– Operations to be performed on Files, Folders, for e.g. Copy, Cut, Paste, Delete, Maximize, Minimize, Drag, Drop, multiple instances.

2.7. Introduction to Accessories: TextEditor, File Browser, Calculator, Gimp.

- 3. Introduction to word processing using OpenOffice/Libre Writer.
 - 3.1. What is word processor?
 - 3.2. Need of word processing.
 - 3.3. General applications of word processor.
 - 3.4. Creating, Editing, and deleting a document.
 - 3.4.1. Cursor movements, Cut/Copy, Paste
 - 3.4.2. Formatting text and paragraph
 - 3.4.3. Working with tables and pictures
 - 3.4.4. Drawing objects
 - 3.5. Printing, Spell Check, Grammar.
 - 3.6. Mobile DTP software (Usage of QuickOffice)
 - 3.7. Mail Merge and its uses.
- 4. Introduction to Presentation Software
 - 4.1. What is presentation?
 - 4.2. Need of presentation software
 - 4.3. Creating, Editing, Import/Export of files, Links, inclusion of sound, templates and presenting with special effects using Impress etc
 - 4.4. General Guidelines for presentation
- 5. Introduction to Internet
 - 5.1. What is Internet? Discussion of present networks and global networks, definition.
 - 5.2. How to acquire internet connection. (Wired, Wireless)
 - 5.3. Addresses used in Internet
 - 5.4. Browser window components and their functions.
 - 5.5. Working of Email. Its components, advantages and disadvantages.
 - 5.6. Information Searching using Internet.
 - 5.7. Other uses of Internet. Discussion in brief about the areas where Internet is used and how it is used, Open Educational resources, google Docs, blogs, teleconferencing, videoconferencing, social networking.
 - 5.8. Techniques for fast and secured data transfer (Compression, Cryptography)
 - 5.9. Computer Security (Need of security, Virus, Preventive measures)

Gujarat Secondary and Higher Secondary Education Board, Gandhinagar
Proposed New Syllabus of Computer Science Standard-10

Total Hours : Theory : 35 Practical : 35

Topic No.	Topic	Theory Hours	Practical Hours
1.	Web design using HTML	8	10
2.	Introduction to Spreadsheet	7	10
3.	Problem Solving using C (Unit 3. & 4)	20	15

1. Web design using HTML
 - 1.1. What is HTML
 - 1.2. Need of Html
 - 1.3. Tags used in html
 - 1.4. General designing concepts
 - 1.5. Example of web pages created
2. Introduction to Spreadsheet
 - 2.1. What is spread sheet?
 - 2.2. Application areas of spreadsheet
 - 2.3. Creating, Editing and formatting a spreadsheet using Calc. (Discussion of concerned menu items)
 - 2.4. Data validations.
 - 2.5. Filtering of data
 - 2.6. Use of formula and Functions. (Most widely used mathematical, statistical, and logical function)
 - 2.7. Graphical presentation of data.
3. Problem Solving (4 hours)
 - 3.1. Problem Solving and Representation of solution.
 - 3.2. Flow chart and its components.
 - 3.3. Examples of elementary problems like addition, subtraction, interest calculation, max / min. of given two values and similar simple decision making problems. (No repetitive structures)
 - 3.4. Nested Conditional Structures, Loops
 - 3.5. Examples using above mentioned entities.

- 3.6. What is Algorithm?
- 3.7. Examples of Algorithm development.
- 3.8. Comparison of Flow chart and Algorithm

4. C Programming

4.1. Introduction to C language. (2 hours)

- 4.1.1. What is program and programming?
- 4.1.2. Simple C program structure.
- 4.1.3. C Character Set (symbols, special characters, keywords, identifiers, escape characters)
- 4.1.4. Steps for executing a C program
- 4.1.5. History of C language.

4.2. Data Type, Operators and Expressions (3 hours)

- 4.2.1. What is data type?
- 4.2.2. Primary
- 4.2.3. User Defined
- 4.2.4. Derived
- 4.2.5. Empty data set
- 4.2.6. Storage class of data types
- 4.2.7. Different operators used in C.
- 4.2.8. Using operators in expressions

4.3. Using I/O operations (3 hours)

- 4.3.1. inbuilt input and output functions of C
- 4.3.2. Control strings.
- 4.3.3. Examples of input and output functions

4.4. Decision Structures & Control Structures. (3 hours)

- 4.4.1. If
- 4.4.2. If-then-else, If-then ladder
- 4.4.3. switch
- 4.4.4. One complete example using all the features discussed in the chapter
- 4.4.5. For
- 4.4.6. While
- 4.4.7. Do-While
- 4.4.8. One complete example using all the features discussed in the chapter.

4.5. Arrays (3 hours)

4.5.1. Need of arrays

4.5.2. Defining single dimensional arrays

4.5.3. Example of arrays

4.5.4. Defining and using multi-dimensional arrays.

4.5.5. One complete example using all the features discussed in the chapter

4.6. Function (2 hours)

4.6.1. Types of function

4.6.2. Defining function

4.6.3. Types of parameters

4.6.4. Calling function

4.6.5. One complete example using all the features discussed in the chapter

ચાલુ અભ્યાસક્રમમાંથી રદ કરેલા મુદ્દા

ક્રમ	પ્રકરણનું નામ	અભ્યાસક્રમમાં રાખેલ મુદ્દાઓ	અભ્યાસક્રમમાંથી ચાલુ વર્ષ માટે બાદ કરેલ મુદ્દાઓ	રીમાર્ક સ
1	કમ્પ્યુટર પરિચય	સમગ્ર પ્રકરણ	-	-
2	કમ્પ્યુટર નો ઇતિહાસ અને તેનો ક્રમિક વિકાસ	સમગ્ર પ્રકરણ	-	-
3	ઇનપુટ અને આઉટપુટ એકમો	સમગ્ર પ્રકરણ	-	-
4	મેમરી સંગ્રહ કરવાના એકમો અને ડેટા નિરૂપણ	સમગ્ર પ્રકરણ	-	-
5	ઓપરેટિંગ સિસ્ટમનો પરિચય	સમગ્ર પ્રકરણ	-	-
6	ઉબુન્ટુ લિનક્સ નો પરિચય	સમગ્ર પ્રકરણ	-	-
7	ઉબુન્ટુ લિનક્સ GUIનો પરિચય	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
8	ઉબુન્ટુ લિનક્સ ની મહત્વની ઉપયોગી સુવિધાઓ	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
9	શબ્દ પ્રક્રિયક નો પરિચય	સમગ્ર પ્રકરણ	-	-
10	દસ્તાવેજ માં સુધારા વધારા અને ગોઠવણી	સમગ્ર પ્રકરણ	-	-
11	ટેબલ અને મેઇલ મર્જ	સમગ્ર પ્રકરણ	-	-
12	પ્રેઝન્ટેશન સોફ્ટવેર નો પરિચય	સમગ્ર પ્રકરણ	-	-
13	ઇન્ટરનેટનો પરિચય	સમગ્ર પ્રકરણ	-	-
14	ઈન્ટરનેટ, ઈમેઈલ અને સલામતી	સમગ્ર પ્રકરણ	-	-

ધોરણ - 10 કમ્પ્યુટર અધ્યયન

ચાલુ અભ્યાસક્રમમાંથી રદ કરેલા મુદ્દા

C-275

C-315

ક્રમ	પ્રકરણનું નામ	અભ્યાસક્રમમાં રાખેલ મુદ્દાઓ	અભ્યાસક્રમમાંથી ચાલુ વર્ષ માટે બાદ કરેલ મુદ્દાઓ	રીમાર્ક્સ
1	HTMLનો પરિચય	સમગ્ર પ્રકરણ	-	-
2	Head અને Body વિભાગ	સમગ્ર પ્રકરણ	-	-
3	HTMLમાં છબીઓનું વ્યવસ્થાપન	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
4	HTMLમાં યાદી અને કોષ્ટકનો ઉપયોગ	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
5	કેલ્સીનો પરિચય	સમગ્ર પ્રકરણ	-	-
6	કેલ્સીમાં ડેટાનું એડિટિંગ અને ફોર્મેટિંગ	સમગ્ર પ્રકરણ	-	-
7	કેલ્સીમાં વિષેય	સમગ્ર પ્રકરણ	-	-
8	કેલ્સીમાં આવેખ	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
9	સમસ્યા અને સમસ્યાનું નિરાકરણ	સમગ્ર પ્રકરણ	-	-
10	સી ભાષાનો પરિચય	સમગ્ર પ્રકરણ	-	-
11	સી ભાષામાં ડેટાપ્રકાર, પ્રક્રિયકો અને પદાવલીઓ	સમગ્ર પ્રકરણ	-	-
12	નિવેશ / નિર્ગમ પ્રક્રિયાઓનો ઉપયોગ	સમગ્ર પ્રકરણ	-	-
13	નિર્ણય માળખાં	સમગ્ર પ્રકરણ	-	-
14	લૂપ નિયંત્રણ માળખાં	સમગ્ર પ્રકરણ	-	-
15	એરે	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-
16	વિષેય	-	સમગ્ર પ્રકરણ બાદ કરેલ છે.	-

