CONTENT DEVELOPMENT AND CLASSIFICATION OF TEST ITEMS

TABLE OF SPECIFICATION

CONTENT AREAS FOR ICT (SHS)

	Content Areas	Competencies	Descriptive statement
1	Introduction to Computer	1. Demonstrate knowledge of the uses of basic components of a computer and its functions. 2. Demonstrate knowledge of different classes of computers. 3. Demonstrate an understanding of factors to consider when purchasing a computer. 4. Demonstrate knowledge of possible threats to computers and computer users.	1. Describe the uses of the components of the computer system. 2. Differentiate among the various classes of computers. 3. Describe the possible threats to computers and users 4. Analyze the factors to consider when purchasing a computer.
2	Computer hardware	1. Demonstrate knowledge of key components of the system unit. 2. Demonstrate knowledge of hardware components and their functions. 3. Demonstrate an understanding of how the CPU functions. 4. Demonstrate knowledge of technologies used in storage devices and media.	1. Identify the key components of the system unit. 2. Classify the various hardware components (Input devices, Processing devices, Output devices, Storage devices, and Communication devices) and their functions. 3. Describe the operations of the CPU. 4. Discuss technologies used in storage devices and media.
3	Computer Software	1. Demonstrate knowledge in computer software component. 2. Demonstrate understanding of operating system.	1. Identify the types of computer software. 2. Identify the types, examples and uses of operating system .

		3. Demonstrate knowledge in purchasing software package.	3. Exhibits factors to consider when purchasing application software package.
4	PC Maintenance	1. Demonstrate knowledge of how to assemble or set up a computer. 2. Demonstrate understanding of operating system. 3. Demonstrate knowledge in Diagnosing and troubleshooting of computer hardware and software problems. 4. Demonstrate knowledge in installation, configuration, and upgrading of microcomputer hardware and software.	1. Illustrate how a computer is assembled or set up. 2. Identify the types, examples and uses of operating system. 3. Diagnose and troubleshoot computer hardware and software problems. 4. Perform installation, configuration, and upgrading of microcomputer hardware and software.
5	Spreadsheet application	1. Demonstrate knowledge in the use of spreadsheet application. 2. Demonstrate understanding in manipulation of formulae and functions in Excel. 3. Demonstrate knowledge in concept of print-previewing and printing. 4. Demonstrate knowledge of using charts to represent information using spreadsheet application. 5. Demonstrate knowledge in grading system in excel.	1. Apply the various techniques in creating and saving a worksheet. 2. Construct and insert formulae and functions in Excel. 3. Exhibit skills in previewing and printing worksheet. 4. Generate chart (pie, bar, scattered diagram etc) using Excel. 5. Create a professional-looking grade sheet using Excel.

6	Data Communication and Networking	1. Demonstrate knowledge in Concept of Data communication and networking. 2. Demonstrate knowledge in categorizing the various types of computer network. 3. Demonstrate knowledge in network topology. 4. Demonstrate understanding in concept of network architecture. 5. Demonstrate understanding in various transmission media. 6. Demonstrate knowledge in the use of various communication devices. 7. Demonstrate understanding of network configuration. 8. Demonstrate understanding in various directions in transmitting data over network. 9. Demonstrate knowledge of network transmission signals. 10. Demonstrate understanding of data security techniques.	1. Discuss key concepts of Networking and communication. 2. Categorize the types of Computer Network (PAN, LAN, and WLAN MAN, WAN). 3. Identify the types of Network Topology (Star, Ring, Bus, Mesh, and Tree). 4. Classify the types of Network Architecture. 5. Compare the types of transmission media (wired, wireless). 6. Describe commonly used communications devices: broadband modems, wireless modems, wireless access points, routers, network cards, and hubs and switches. 7. Configure a simple network. 8. Analyze the various directions for transmitting data (simplex, half duplex, full duplex). 9. Discuss the various forms of transmission signals (Analog, Digital) 10. Apply the various techniques of securing data over a transmission media
7	Word Processing application	1. Demonstrate knowledge of word processing applications. 2. Demonstrate knowledge in using the ‘save’ and ‘save As’ commands. 3. Demonstrate understanding in performing editing and formatting activities in word processing applications. 4. Demonstrate knowledge in using tables in word processing applications.	1. Create a document using a Word processor. 2. Illustrate how to save a document using the “Save” and “Save As” commands. 3. Perform editing and formatting activities in the Word Processing application appropriately. 4. Create tables in a Word Processing document.

8	Database and Software development	1. Demonstrate knowledge of Database concept implementation in an organization. 2. Demonstrate an understanding of file-based systems. 3. Demonstrate knowledge in using SQL and MS Access. 4. Demonstrate an understanding of performing and managing database systems. 5. Demonstrate knowledge in using queries in a database. 6. Demonstrate knowledge of algorithms to solve problems. 7. Demonstrate understanding of using programming languages. 8. Demonstrate understanding in interpreting source codes.	1. Apply database concepts and terminologies in solving real-life problems. (data, relationship, database, DBMS view, keys, tables, forms, etc) 2. Identify the characteristics and limitations of file-based systems. 3. Create a database using Access and SQL. 4. Manage a database system (add, delete, edit, sort etc) 5. Create and use query (using auto wizard and design view) 6. Explain the concepts of Algorithms and use them to represent data (Pseudocode, Flowcharts, Actual codes) 7. Use features of programming language (Datatypes, variables, assignment, condition, loop, arrays 8. Interpret source code, class, syntax errors, and Boolean expression.
9	Internet and web technologies	1. Demonstrate an understanding of the use of the internet and its terminologies. 2. Demonstrate knowledge of web development concepts. 3. Demonstrate understanding of developing HTML scripts. 4. Develop best practices in website development. 5. Develop knowledge in creating tables and lists with HTML codes.	1. Apply the basic concepts, requirements and terminologies of the Internet. 2. Apply concepts in Web Development. 3. Apply the basic structure for HTML coding. 4. Justify the best Practices in Website Designing. 5. Create headers, tables, and lists, using HTML codes.
10	Presentation application	1. Demonstrate knowledge in PowerPoint presentation creation.	1. Create PowerPoint slides.

		2. Demonstrate knowledge in applying themes to slides. 3. Demonstrate understanding in using animations and applying transitions to slides.	2. Apply themes to the slides. 3. Add animations and transitions to the slides.

TABLE OF SPECIFICATION - ICT FOR SHS

NO.	CONTENT AREAS	Course Objectives/Outcomes (DoK)				Total
		Level 1 (Recall)	Level 2 (Skills/Concepts)	Level 3 (Strategic Thinking)	Level 4 (Extended Thinking)	
1	Introduction to Computer	1	2	2	2	**7**
2	Computer hardware	2	2	4	3	**11**
3	Computer Software	2	3	4	3	**12**
4	PC Maintenance	2	3	3	3	**11**
5	Spreadsheet application	1	2	3	3	**9**
6	Word Processing application	2	2	3	2	**9**
7	Data Communication and Networking	1	4	4	4	**13**
8	Database and Software development	1	2	3	5	**11**
9	Internet and web technologies	1	3	3	4	**11**
10	Presentation application	2	2	1	1	**6**
Total		15	25	30	30	100