CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2021-2022

INFORMATION TECHNOLOGY (SUB. CODE - 802)

JOB ROLE: DOMESTIC IT HELPDESK ASSISTANT

CLASS – XI

The present course curriculum offers an opportunity for students to understand the basics of computer software and hardware for working efficiently on computer. This course will enable students to hone skills to develop desktop based applications etc. With extensive demand of designers, the course aims at inculcating not only programming skills but also the understanding of graphics. Graphics in itself is a wide and very interesting area which helps in shaping the creativity of a student.

PREAMBLE:

Computer is now affecting energy sphere of human activity. It is instrumental in bringing revolutionary changes in industry, scientific research and education. This is not only the demand of time but also the demand of almost each and every subject to have an associated computer learning to equip a student with start-of-art technology to prove himself/herself a better candidate than those without computer knowledge.

COURSE OVERVIEW

Domestic IT Helpdesk Assistant requires the individual to have thorough knowledge of various technology trends. This job involves working on a computer, entering, retrieving and sharing data He/she can assist a programmer or a database engineer. He/she can independently interact with customers. The individual should be result oriented and should be able to demonstrate logical thinking and interpersonal skills and should be willing to work at a desk based job. The person is responsible to maintain hardware and software systems according to company policies. Inspect, and Troubleshoot basic network, hardware and software components.

COURSE OUTCOMES

On completion of the course, students should be able to:

- Apply effective oral and written communication skills to interact with people and customers;

- Identify the principal components of a computer system; Demonstrate the basic skills of using computer;
- Identify the solution for small applications in the form of computer programmes
- Use the computer for the data entry process with speed and accuracy.
- Manage the database and handle queries.
- Understand basic cyber safety and security norms
- Will be able to troubleshoot the computer system

SALIENT FEATURES OF THE COURSE

The course will equip students with skills to analyze various problems and their trouble shooting. Content of the course has been designed as such to make students capable of independently working on a desktop and be able to develop applications to handle computations of small scale and record keeping.

Students will develop following skills:

- It will empower students with various skills required to work efficiently on computer.
- Understand basic functional and computational units.
- Understand networking and internet concepts
- Recognize various internet devices and threats to cyber security.
- Skills to work efficiently with basic office tools like word, spreadsheets, presentation
- Understand basics of databases and SQL to handle databases
- Develop programming skills in Java

Through this course students will not only gain knowledge about the basics of computer but will also develop confidence in developing small applications through programming.

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class XI opting for skill subject along with other education subjects.

The unit-wise distribution of hours and marks is given overleaf:

INFORMATION TECHNOLOGY (SUBJECT CODE - 802)

Class XI (Session 2021-22)

Total Marks: 100 (Theory-60 + Practical-40)

	TERM	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
Part A	**Employability Skills**				
	TERM I	Unit 1 : Communication Skills-III	10		5`
		Unit 2 : Self-Management Skills-III	10		
		Unit 3 : ICT Skills-III	10		
	TERM II	Unit 4 : Entrepreneurial Skills-III	15		5
		Unit 5 : Green Skills-III	05		
		Total	**50**		**10**
Part B	**Subject Specific Skills**		**Theory (In Hours)**	**Practical (In Hours)**	**Marks**
	TERM I	Unit -1 : Computer Organization	10	15	5
		Unit -2 : Networking And Internet	15	25	10
		Unit-3 : Office Automation Tools	15	30	10
	TERM II	Unit-4: RDBMS	15	20	10
		Unit-5: Fundamentals of Java	25	35	15
		Total	**85**	**125**	**50**
Part C	**Practical Work**				
		Office Automation Tools			15
		JAVA Programme			10
		MYSQL Commands			5
		Total			**30**
Part D	**Project Work**				
		Practical File			05
		Viva Voce			05
		Total			**10**
		GRAND TOTAL	**260**		**100**

DETAILED CURRICULUM/TOPICS FOR CLASS XI:

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	10
2.	Unit 2: Self-management Skills-III	10
3.	Unit 3: Information and Communication Technology Skills-III	10
4.	Unit 4: Entrepreneurial Skills-III	15
5.	Unit 5: Green Skills-III	05
	TOTAL DURATION	**50**

NOTE: **For Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website**.

Part-B – SUBJECT SPECIFIC SKILLS

- UNIT -1: COMPUTER ORGANIZATION
- UNIT -2: NETWORKING AND INTERNET
- UNIT-3: OFFICE AUTOMATION TOOLS
- UNIT-4: RDBMS
- UNIT-5: FUNDAMENTALS OF JAVA

UNIT-1 COMPUTER ORGANIZATION

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Understand and appreciate fundamentals of Computer and its characteristics	• Introduction to Fundamentals of Computer and its use • Characteristics of computer • Components of computer • Block diagram of computer • Processes of task execution • steps of process execution • function of various components of computer and CPU	• identify and enlist various applications of computer • illustrate various components of computer under different blocks • illustrate functions of various components of computer
2	Understand the components of computer	• identify various components of computer • appreciate function and use of I/O devices • learn about various storage devices used in computer • various memory units of storage	• illustrate various types of I/O devices • identify and find out the application of each of the I/O Devices

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
3	Understand Operating System	• introduction to Operating System and its need • functions of operating system • types of operating system • difference between various operating systems	• identify different types of OS in computers/mobile phones • identify the different in features of various operating systems
4	Troubleshooting in computer system	• introduction to common troubleshooting/ problems • common troubleshooting steps • troubleshooting hardware problems like display, keyboard, mouse etc. • troubleshooting printer problems • understanding printer IP address • understanding various printer settings like fast/ slow printing • sound troubleshooting • understanding speaker settings like volume etc. • troubleshooting software problems • troubleshooting networking problems • learn about problems in network fly lead, network card	• identifying different kinds of problems in the systemand its peripheral devices • setting up a printer • selecting a printer • setting default printer • changing printer settings • how to forcefully restart a computer or stop a task • demonstration of problems in fly lead, network card and possiblesolutions
5.	Understand the importance of Utilities	• Disk Space management • Disk Cleanup • Managing Recycle Bin • learning about disk defragmentation • learn to remove unused programs • learn to disable unused program services • restart the system • learn to use command prompt to search for a file.	• illustration to view the disk storage • to apply Disk Cleanup utilities to enhance performance of the system • to identify, view and manage Recycle Bin • illustration and hands onto remove unused programs • illustration and hands on to disable/enable program services • restart the computer • to search different files using various options andwildcard characters

UNIT 2: NETWORKING AND INTERNET

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Understand Computer Networking	• Introduction • Need and benefits of networking • Components of a network: sender, receive, message, channel, • Transmission Medium (wired and wireless) • Telephone Network standard (technology used in each generation) • Working Devices (RJ45 connector, Modem, Repeater, Hub, Switch, Bridge, Gateway, Routers) • Network Topology (Bus, Star , Ring, Tree, Mesh) • Types of Networking (LAN, MAN, WAN, PAN, VAN)	• Illustrate various networks and its benefits • Identify the transmission medium , devices, network topology ,type of networking in computer lab • Setting up hotspot
2.	To understand Internet and its terminology	• Introduction and use of Internet • Digital Literacy • Terminology (Channels, Bandwidth (HERTZ, KHZ), ISP) • Internet Devices: Repeater, Hub, Switch, Gateway, Bridge, Router • Data Transfer Rate (bps, Kbps, KBps, Mbps, MBPS, Gbps, GBPS) • Protocols (TCP/IP, FTP, HTTP, SMTP, POP3, PPP, UDP)	• Analyze the Bandwidth, • identify Internetdevices and theirsignificance, • to check/view Data transfer rate in computer lab/ devices
3.	Understand cybercrime and the need of Cyber Security	• Network safety concerns: (Digital Footprints, Threats, Virus, Worm, Trojan Horse, Spam, Malware, DoS Attacks, Eavesdropping, Adware, Spyware, Snooping) • Networking Security Measures (Antivirus, Firewall, Login ids and Password) • Cyber Crime (Phishing, Pharming, Spoofing, Cyber Bullying, Hacking, Cracking, Identity Theft, Cyber Stalking, Cyber Trolling, • Cyber Safety (Netiquettes, IT Act, Cyber Laws)	• Find out the threats encountered and the security measures used in computer lab and mobile phones • go through the link https://www.cyberlawsindia.net

UNIT 3: OFFICE AUTOMATION TOOLS

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Word processor	• Introduction work with Word processing applications like OpenOffice, • Introduction to Word Processing window components like work area, ruler, tab etc. • Understanding various tabs like File,Edit, Insert, View and their submenuoptions to format a document using OpenOffice Writer. • Learn to create tables in wordprocessors	• List the available word processing applications. • Introduce the parts of the main window. • Change document views. • Start a new document. • Open an existing document. • Save a document. • Close a document. • Use the Navigator.
2.	Spreadsheets	• appreciate need and use of spreadsheets • learn to install an open source spreadsheet software like Calc • learn components of the Spreadsheet title window. • appreciate different formatting features available in spreadsheets • learn to work, save and close spreadsheets • work with data, move data, use edit menu • Use AutoFill, formatting data, • alignment, changing cell color, gridlines and borders, • flow of text, merging, splitting text, wrap text, shrink to fit • Numeric data formatting • Find and Replace Data • delete data and formatting • delete cells • insert delete rows and columns • using formula and functions • various type of operators • predefined functions in spreadsheets (sum(), sqrt(), product(), power(), log(), round(), abs(), average() etc. • addressing/ referencing: absolute, relative, mixed • sort and filter data • create chart and graph, setting legend, grids in charts, resizing and moving charts, modifying and deleting charts • create/record a macro, run/use macros • print spreadsheets	• demonstration of components of the Spreadsheet window. • demonstration and hands on to insert formulae and use inbuilt functions efficiently • make charts using chart tools in spreadsheet • sort data according to various criteria • change colour, alignment, set borders • insert, delete, hide, show rows and columns • creating macros and use them efficiently • merging two or more cells, splitting a cell • search data using Find options, search and replace a selected piece of text

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
3.	Powerpoint	• introduction to presentation software • start OpenOffice Impress • overview of OpenOffice • study of various tabs of OpenOffice • understand various views of presentation, animations, transitions, header, footer etc.	• Students will be able to work with presentation software

UNIT 4: RDBMS

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Understand Relational Database Management System	• Database and its purpose • Components of a table • Relational Database Model Terminology (Relation, Tuple, Attribute, Cardinality) • Keys (Primary, Candidate, Alternate, Foreign)	• Installation of MYSQL • Simple calculations in MYSQL
2.	Introduction to MYSQL	• Introduction To MYSQL • Classification of MYSQL commands (DDL, DML) • Data Types in MYSQL (char, varchar, decimal, int, date, time) • Create database • Create table • View structure of a table • Add constraints in table • Modify structure • Show all tables created in a database • Delete structure	• CREATE DATABASE • USE • CREATE TABLE • DESCRIBE • SHOW TABLES • ALTER TABLE • DROP TABLE
3.	DML Commands	• Add rows to a table • Viewing content of a table • Display selected data depending on specific condition • Display data in a order • modify the data stored in a table • delete contents of a table	• INSERT INTO • UPDATE • DELETE • Using WHERE, ORDER BY, DISTINCT, LIKE, BETWEEN, IN

UNIT 5: FUNDAMENTALS TO JAVA PROGRAMMING

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Understand Integrated Development Environment (NETBEANS)	• Components of IDE • Understand and change Properties and methods of Components like jButton, jLabel, jTextField, jTextarea, jRadiobutton, jCheckbox, jPasswordField, jListBox, jComboBox	• Create a project • Create a JFrameForm container • Add a button component on JFrameForm and change properties like text, font, foreground etc using properties window • Add other container controls like jTextField , jTextarea, jRadiobutton, jCheckbox, jPasswordFieldjListBox, jComboBox and change their properties
2	JAVA Programming	• Introduction to Object Oriented Programming • To understand various data types (primitive) and purpose of each data type • To understand the need and usage of variables • To understand usage of operators (assignment, arithmetic, relational, logical, bitwise) • To understand how to attach a code with components like jButton, jLabel, jTextField and create a simple application on JFrame • To understand the use of various components like jTextarea, jRadiobutton, jCheckbox, jPasswordField, jListBox, jComboBox, JTable, JOptionPane, JPanel • To understand when to use selection statements (if, if else and switch case)	• Display message Using jlabel and jtextField • Join two text entries and display them • Write code to close the application • Using Joption Pane display a message “welcome to INFORMATION TECHNOLOGY” • Perform simple arithmetic calculation using operators and display the result • Write the code to find simple interest • Write code to perform an operation based on the criteria input by the user in a checkbox or radio button • change the background colour of jbutton based on the colour selected from the jListBox /jComboBox • accept marks in 5 subjects and find out the total, percentage. Also display grade depending on the total marks obtained. • Enter a character and find out it is vowel or consonant