INFORMATION TECHNOLOGY (SUBJECT CODE - 802)

Class XI (Session 2023-2024)

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

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory andPractical
Part A	**Employability Skills**			
	Unit 1 : Communication Skills-III	10		2
	Unit 2 : Self-Management Skills-III	10		3
	Unit 3 : ICT Skills-III	10		1
	Unit 4 : Entrepreneurial Skills-III	15		3
	Unit 5 : Green Skills-III	05		1
	Total	**50**		**10**
Part B	**Subject Specific Skills**	**Theory (In Hours)**	**Practical (In Hours)**	**Marks**
	Unit -1 : Computer Organization	15	15	5
	Unit -2 : Networking And Internet	15	25	10
	Unit-3 : Office Automation Tools	15	30	10
	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: **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 itscharacteristics	• 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 ofstorage	• 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 settingslike volume etc. • troubleshooting software problems • troubleshooting networking problems • learn about problems in network fly lead, network card	• identifying different kinds of problems in the system and 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 and wildcard 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 Internet devices and their significance • 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 processingapplications like OpenOffice, • Introduction to Word Processing windowcomponents like work area, ruler, tab etc. • Understanding various tabs like File, Edit, Insert, View and their submenu options to format a document using OpenOffice Writer. • Learn to create tables in word processors	• List the available wordprocessing applications. • Introduce the parts ofthe 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, gridlinesand borders, • flow of text, merging, splitting text, wraptext, 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 tovarious 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 Findoptions, search and replace a selected piece of text

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
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.	Introductionto 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 ofComponents 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 ofoperators (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 ofvarious 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 calculationusing 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 displaygrade depending on the total marks obtained. • Enter a character and find out it is vowel or consonant