COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTMA101N	DCC	APPLIED MATHEMATICS-I	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; *Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. Understand fundamentals of algebra, complex numbers, and quadratic equations.
2. Apply binomial theorem and trigonometric concepts in problem solving.
3. Build a strong mathematical foundation for higher studies.

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:
1. Apply the techniques of algebra.
2. Understand the quadratic equations.
3. Know the fundamental concepts of Binomial theorem.
4. Study the trigonometric properties used in engineering.

SYLLABUS
UNIT I   10 HOURS
Algebra: Logarithm, Definition of natural and common Logarithm; Laws of Logarithm; Simple Problems based on laws of laws.

UNIT II   9 HOURS
Complex Numbers: Definition of Complex numbers, Cartesian and polar. Exponential forms of complex numbers; Modulus, amplitude & conjugate of a complex number; Algebra of Complex numbers (Equality, Addition, Subtraction, Multiplication).

UNIT III   8 HOURS
Cube root of unity & Quadratic Equations: Cube root of unity and properties of cube root of unity. Definition of Quadratic Equations, Analyzing the nature of roots using discriminant, Relation between roots & coefficients, simple problems.

UNIT IV   8 HOURS
Binomial Theorem: Definition of factorial notation, definition of permutation and combination with formula, Binomial theorem for positive index (statement only), General term and middle term. Binomial theorem for negative index (statement only).

UNIT V   8 HOURS

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTMA101N	DCC	APPLIED MATHEMATICS-I	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; *****Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Trigonometry: Relation between degree and radian, trigonometric ratios, sign of trigonometric ratios or functions, simple problems based on trigonometric functions.

TEXTBOOKS:
1. J. E. Hopcraft, R. Motwani and J. D. Ullman, Introduction to Automata Theory, Languages, and Computation, 3rd Ed., Pearson, 2013.
2. P. Linz, S. H. Rodger, An Introduction to Formal Languages and Automata, 7th Ed., Jones & Bartlett Learning, 2023.

REFERENCE:
1. B.K. Paul, Diploma Engineering Mathematics (Vol-1), U.N. Dhār & Sons.
2. G.P. Sam anta, A Text Book of Diploma Engineering Mathematics, Volume-1, Learning Press.
3. Dr. S. Bose & S. Saha, A Complete Text Book of Mathematics, Lakshmi Prakasan.
4. H.S. Hall & S.R. Knight, Higher Algebra Book Palace, New Delhi.
5. S.L. Loney, Trigonometry S. Chand & Co.
6. H.K. Dass Engineering Mathematics S. Chand & Co.
7. B.K. Pal, K. Das, Engineering Mathematics, Volume-1, U.N. Dhār & Sons.
8. B.C. Das & B.N. Mukherjee, Differential Calculus, U.N. Dhār & Sons.

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTPH101	DCC	Applies Physics	60	20	20	30	20	3	0	2	04

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. Understand different systems of units and convert units from one system to another as well as estimate and minimize the errors in measurements.
2. Understand and apply the concepts of Elasticity, Flood mechanics and Surface Tension.
3. Understand and apply the concepts of Reflection, Refraction, Interference, Diffraction and Polarization of light.
4. Understand and apply the basic concepts of Electricity and Magnetism.
5. Understand the properties of laser to apply them for various engineering applications including optical fiber communication.
6. Visualize and realize the concepts of Physics studied in theory and apply them in simple experiments.

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:
1. Differentiate various systems of units and convert units from one system to another as well as estimate and minimize the errors in measurements.
2. Understand the concepts of Elasticity, Flood mechanics and Surface Tension and apply them for simple applications.
3. Understand the concepts of the concepts of Reflection, Refraction, Interference, Diffraction and Polarization of light and to apply them for simple applications.
4. Understand the concepts of Electricity and Magnetism and apply them for simple applications.
5. Understand the properties of laser and apply them for various engineering applications including optical fiber communication.
6. Visualize and realize the concepts of Physics studied in theory and apply them in simple experiments.

SYLLABUS
UNIT I   10 HOURS
Units and Measurements: Requirements of standard units, various unit systems (CGS, FPS, MKS, SI), conversions, fundamental and derived physical quantities and their units and dimensions. Errors in measurement, significant figures and precision, Accuracy and precision of instruments.

UNIT II   9 HOURS
Properties of matter: Elasticity: Deformation, Restoring force, Stress, Strain relationship, Hooke's law, Young's modulus, bulk, modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio.
Flood Mechanics: Newton's law of viscosity, coefficient of viscosity, streamline and turbulent flow, factors

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTPH101	DCC	Applies Physics	60	20	20	30	20	3	0	2	04

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; *__Teacher Assessment__* shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

affecting viscosity. Cohesive and adhesive forces, surface tension, factors affecting surface tension.

UNIT III   10 HOURS
Optics: Wave Theory of Light: Huygens's theory, wave fronts, laws of reflection and refraction, total internal reflection, dispersion.

Interference and Diffraction: Principle of superposition, constructive and destructive interference, Introduction to diffraction, Fresnel and Fraught for diffraction.

Polarization: Polarized and polarized light, Plane of polarization, Plane of Vibration, Optic Axis Plane, circularly and elliptically Polarized light.

UNIT IV   9 HOURS
Electricity and Magnetism: Coulomb's Law, Electric Field, Intensity of Electric field and Electric Potential, Ohm's law, Resistivity, Conductivity, Series and Parallel combination of resistors. Magnetic field, Magnetic flux, Magnetic flux density. Concept electromagnetic Induction, Faraday's law, Lorentz Force, Oberstar's experiment.

UNIT V   9 HOURS
Laser and Fiber Optics: Laser: Stimulated and Spontaneous Emission, Population Inversion, Pumping, Optical Resonator, Properties and Applications of Laser, Ruby Laser.

Optical fiber: Introduction to Optical fiber, Ray theory of propagation through optical fiber, Acceptance angle and cone, Types of Optical fiber, Numerical Aperture, applications of optical fiber.

TEXTBOOKS:
1. Engineering Physics by Gaur R. K. and Gupta S. L., Dhanpat Rai Publications, New Delhi, Eighth Edition 2010, Physics Textbook of 11th & 12th std. (NCERT)

REFERENCE:
1. Fundamentals of Physics Extended, By Halliday D., Resnik R. and Walker, Wiley, India, New Del hi, Eighth Edition, 2008.
2. Physics for scientists and Engineers by Serway R. A. and Jewett, Jr. J. W., Thomson Learning (Indian reprint), New Delhi, Sixth Edition, 2007.

LIST OF PRACTICALS
1. Determination of Least count and zero error of Venire caliper and observations with Spectrometer.

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTPH101	DCC	Applies Physics	60	20	20	30	20	3	0	2	04

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

2. Determination of Least count and Zero error of Micrometer Screw Gauge.
3. Use of Micrometer Screw Gauge and observations with traveling microscope.
4. Determination of resistivity of a given wire.
5. Determination of volume of a given vessel by speedometer.
6. To find unknown resistance by PO Box.
7. To verify Hooke's law.
8. To verify Snell's law.
9. Determination of refractive index of material of glass slab.
10 To verify Ohm's law.

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS101	DC	Introduction to Computing	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; *****Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. To understand the architecture and functioning of a computer system.
2. To learn number systems, hardware components, and system software.
3. To explore the basics of operating systems, networks, and internet technology.
4. To introduce cloud computing and the fundamentals of cybersecurity.
5. To develop basic practical skills for handling computing systems securely.

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:

1. Identify and explain computer components and their functions.
2. Convert and compute data using number systems.
3. Demonstrate OS operations and basic file handling.
4. Understand and apply safe internet and network usage practices.
5. Explain cloud computing basics and common cybersecurity threats

SYLLABUS
UNIT I   10 HOURS
Basics of Computer Systems
Definition, characteristics, and applications of computers in various fields such as business, education, defense, and healthcare. Evolution of computing through different generations, classification of computers (digital, analog, hybrid), and functional components using block diagrams (input unit, memory unit, ALU, control unit, output unit).

UNIT II   8 HOURS
Number Systems and Data Representation:

Number systems: binary, decimal, octal, and hexadecimal. Includes conversions between number systems, binary arithmetic (addition, subtraction), and representation of characters using ASCII/Unicode. Emphasizes the importance of data formats in system security and low-level computation.

UNIT III   9 HOURS
Computer Hardware and System Software:
Internal and external hardware components: CPU, RAM, ROM, cache, SSD, HDD, input/output devices, and buses. system software: operating systems, device drivers, compilers, and utility programs. Security

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS101	DC	Introduction to Computing	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

aspects of hardware and BIOS/UEFI boot sequence.

UNIT IV   **9 HOURS**
Operating Systems, Internet & Networking:
Functions and types of operating systems. Covers file systems, memory and process management, and access controls. Overview of computer networks (LAN, WAN, protocols like TCP/IP), IP addressing, DNS, and safe internet usage. Introduces concepts of VPNs and firewalls for secure connectivity.

UNIT V   **6 HOURS**
Introduction to Cloud Computing & Cyber Security Fundamentals:
Introduces cloud computing concepts—service models (IaaS, PaaS, SaaS), deployment models, and popular platforms (AWS, Azure). Discusses advantages like scalability, reliability, and cost-effectiveness. Fundamentals of cybersecurity: cyber threats, types of malware, phishing, data privacy, password security

TEXTBOOKS:
1.   A. Goel, *Computer Fundamentals*, Pearson Education, 2010.
2.   P. K. Sinha and P. Sinha, *Computer Fundamentals*, BPB Publications, 2014.
REFERENCE:
1.   P. Norton, *Introduction to Computers*, 6th ed., McGraw-Hill, 2004.
2.   T. Erl, *Cloud Computing: Concepts, Technology & Architecture*, Pearson Education, 2013.
3.   C. Pfleeger and S. Pfleeger, *Security in Computing*, 5th ed., Pearson, 2015.
LIST OF PRACTICALS
1.   Identify computer system components (CPU, RAM, storage, I/O)
2.   Demonstrate system boot process and BIOS/UEFI settings
3.   Convert numbers between binary, decimal, octal, and hexadecimal
4.   Perform binary arithmetic operations manually
5.   Use Windows/Linux OS: create folders, manage files
6.   Explore system settings, device manager, and task manager
7.   Install and uninstall applications safely
8.   Use Control Panel/Settings to modify system configurations
9.   Access IP configuration and troubleshoot local network
10.   1Demonstrate secure email usage and phishing identification
11.   1Use a browser safely: incognito mode, managing cookies, bookmarks
12.   Setup cloud storage (Google Drive/Dropbox) and share files
13.   Demonstrate file encryption and decryption using simple tools

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS101	DC	Introduction to Computing	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; *****Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

14. Explore VPN setup and firewall settings
15. Case study: Identify and report a simulated cyber threat scenario

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS102	DC	**Introduction to Programming (Python)**	60	20	20	30	20	2	0	2	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. **Demonstrate the ability to write basic Python programs** using appropriate data types, constants, and literals.
2. **Design and implement solutions** by effectively using Python operators and control flow constructs like conditionals and loops
3. **Apply Python data structures** such as lists, tuples, sets, and dictionaries to solve computational problems efficiently.
4. **Develop Python applications** utilizing built-in functions, file I/O operations, and user-defined functions for modular programming.
5. **Implement object-oriented programming principles** by creating and manipulating classes, objects, and methods in Python.

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:

1. Develop and execute fundamental Python programs by employing appropriate data types, constants, and literals.
2. Utilize operators and control flow structures to devise and execute solutions for the specified challenges.
3. Utilize data structures such as lists, tuples, sets, and dictionaries to develop efficient solutions for the given problems.
4. Apply Python's built-in functions, file handling features, and user-defined functions to develop effective solutions for the given problems
5. Implement object-oriented programming concepts using Python classes, objects, and class methods.

SYLLABUS
UNIT I   10 HOURS
Introduction and Syntax of Python Programming:
Introduction to python, history of python, python features, python applications, installing python, basic structure of python program, keywords and identifiers, variables, type casting, input-output functions: input, print, data types: number, string, set, tuple, list and dictionary, declaration and use of data types, literals, constants, identifiers.

UNIT II   8 HOURS
Operators and Control Flow Structures:

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS102	DC	Introduction to Programming (Python)	60	20	20	30	20	2	0	2	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Basic Operators: arithmetic, logical, comparison, assignment, bitwise, membership, identity operator, python operator precedence

Control Flow: Concept of Indentation and if, if...else, if…el if…else statement with examples, while loop, for loop, range () function, break and continue, pass & return statements and Nesting of loops.

UNIT III   9 HOURS
Data Structure in Python:
Concept list, tuple, dictionary and set: accessing, updating, deletion and basic operations of dictionary, list and tuple, Applications of list, tuple, dictionary and set functions.

UNIT IV   9 HOURS
Python Functions and File handling:
Built-in functions: type/ data conversion functions, math functions, string functions. user defined functions: introduction to python user defined function, function definition, function calling, passing parameters to a function and returning values from a function, recursion, scope of variables- local variable and global variable. File handling: Files, file operations, files and streams, creating a file, reading from a file, iterating through files, writing file, maintain students record using file handling.

UNIT V   6 HOURS
Object oriented programming with python
Learning python classes and objects, built-in class attributes and class methods.

TEXTBOOKS:
1. R. Nageswara Rao,Core Python Programming, 2ed, India: Dreamtech press,2018
2. A. Sweigart, *Automate the Boring Stuff with Python*, 2nd ed., San Francisco, CA, USA: No Starch Press, 2019.
3. M. Lutz, *Learning Python*, 5th ed., Sebastopol, CA, USA: O'Reilly Media, 2013.

REFERENCE:
1. B. Slatkin, *Effective Python: 59 Specific Ways to Write Better Python*, Boston, MA, USA: Addison-Wesley Professional, 2015.
2. L. Ramalho, *Fluent Python*, 1st ed., Sebastopol, CA, USA: O'Reilly Media, 2015.

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS102	DC	Introduction to Programming (Python)	60	20	20	30	20	2	0	2	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

LIST OF PRACTICALS

1. Write a python program to print "Welcome to SVVV".
2. Write a python program to display data types of different variables.
3. Write a python program to check given character is a vowel or not.
4. Write a program to check if number is Armstrong.
5. Write a program to check special number. (Number is equal to the sum of its divisors).
6. Write a program to create and initialize a list with your name, enrollment number, age, branch and result. Perform insert, remove, update, append and extend operation on list
7. Create and print a dictionary that contains keys a,b,c,d with their values 1,2,3 and 4 respectively using curly bracket syntax and 'dict' in built function.
8. Using above created dictionary perform following operations: 1)Write a code to print out the value of a, d, and c. 2) Calculate the sum of the value of a,b,c,d and print it.
9. Write a program to perform addition of two numbers using user defined function.
10. Write a Python program to read content from a file and display the word with maximum length.
11. Write a Python program to combine each line from first file with the corresponding line in second file.
12. Write a Python program to read first n lines of a file.
13. Write a Python program to write students information into csv file and read that details.
14. Create a class Employee with data members: name, department and salary. Use constructor to initialize values and display() method for printing information of three employees.
15. Write a program to create class Student with following attributes: instance variables enrollment_no, name and branch; instance methods get_value() and print_value(); class variable cnt; static method show(). Variable cnt counts number of instances created and show() method displays value of cnt.

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
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DTCS103	SEC	**Office Automation Tools**	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. Understand the use of Office automation tools.
2. Understand various procedures of word processing.
3. Understand basic spreadsheet applications.
4. Understand the use of powerpoint in creating presentations.
5. Understand office automation applications.

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:
1. Efficiently use word processing tools in office suite applications like Microsoft Word.
2. Create and manage professional presentations using Microsoft PowerPoint.
3. Handle data and perform operations using spreadsheet tools such as Microsoft Excel.
4. Apply electronic signature solutions like DocuSign or Adobe Sign for digital document signing.
5. Gain practical experience with video conferencing platforms used for virtual meetings and webinars.

SYLLABUS
UNIT I   10 HOURS
Introduction to MS Office & MS Word:
MS-Word: Features of MS-Word, MS-Word Window components, working with formatted text, Shortcut keys, Formatting documents: Selecting text, Copying &moving data, formatting characters, changing cases, Paragraph formatting, Indents, Drop Caps Using format painter, Page formatting, Header & footer, Bullets & numbering, Tabs, Forming tables. Finding & replacing text, go to (F5) command, proofing text (Spell-check, Auto correct).

UNIT II   8 HOURS
MS Word Advanced features:
Difference between Wizard and Template - Customize the Quick Access Tool Bar - Macros: Purpose - Creating Macro - Using Macro - Storing Macro - Inserting pictures: From Computer, Online Pictures Insert 3d Models Insert Shapes Insert Text Box - Insert Equation, Hyperlinks, Tables Insert tables Mail merging, Printing documents, Tables Insert tables, Mathematical calculations on tables data. Insert Text Box etc.

UNIT III   9 HOURS

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS103	SEC	Office Automation Tools	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Introduction to MS Excel & Its features:

MS-Excel: Excel Features, Spread sheets, workbooks, creating, saving & editing a workbook, Renaming sheet, cell entries (numbers, labels, and formulas), spell check, find and replace, Adding and deleting rows and columns Filling series, fill with drag, data sort, Formatting worksheet, Functions and its parts, Some useful Functions in Excel (SUM, AVERAGE, COUNT, MAX,MIN, IF),

UNIT IV   7 HOURS

Collaboration & Communication and Electronic Signature:

Microsoft Teams: Combines chat, video conferencing, file storage, and application integration for team collaboration.

Zoom: Video conferencing software for online meetings and webinars.

Electronic Signature: DocuSign:

Allows users to electronically sign documents, contracts, and agreements.

Adobe Sign: Part of the Adobe Document Cloud, offering electronic signature capabilities.

UNIT V   8 HOURS

Future Trends in Office Automation:

Emerging technologies and their impact on office automation

Security and Privacy:

Importance of security in office automation, Best practices for securing office documents and communications

TEXTBOOKS:

1. Fundamentals of Computer - V. Rajaraman, Printice Hell of India.
2. Introduction to Computers-Peter Norton McGraw-Hill.

REFERENCE:

1. Ramesh Bangia, "Learning Microsoft Office 2010", Khanna Publishers
2. Satish Jain, Shashi Singh, M. Geetha Iyer, "Bpb'S Computer Course Windows 10 With MS Office 2016", BPB Publications.
3. Computer Fundamentals-Pradeep K. Sinha: BPB Publications.
4. Fundamentals of Computers -Reema Thareja, Oxford University Press India.

LIST OF PRACTICALS

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTCS103	SEC	**Office Automation Tools**	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

1. Create and format a basic document using different font styles, sizes, and colors
2. Apply paragraph formatting, set indents, line spacing, and alignment.
3. Use the format painter, insert drop caps, bullets, and numbering.
4. Create a header and footer, apply page borders, and use tabs.
5. Create and format a table, merge cells, and apply table styles.
6. Use "Find & Replace" and "Go To (F5)" feature in a document.
7. Use spelling and grammar check, and explore AutoCorrect options.
8. Demonstrate the difference between Wizard and Template.
9. Customize the Quick Access Toolbar.
10. Record, run, and save a Macro in MS Word.
11. Insert pictures, 3D models, shapes, and text boxes.
12. Insert and solve a basic equation in a document.
13. Create and use hyperlinks within the document.
14. Perform mail merge using a sample address list.
15. Perform basic mathematical calculations inside tables (sum, average).
16. Create, save, and edit a workbook with multiple sheets.
17. Enter data (numbers, labels, formulas), use spell check, find & replace.
18. Add and delete rows & columns, and fill series using drag.
19. Format cells, apply borders, number formats, and styles.
20. Use basic Excel functions: SUM, AVERAGE, COUNT, MAX, MIN.
21. Use IF function to apply conditional logic in a cell.
22. Sort and filter data in a spreadsheet.
23. Join or host a meeting using Microsoft Teams, share files and chat.
24. Join a Zoom meeting, explore screen sharing and chat options.
25. Sign a document electronically using DocuSign or Adobe Sign.
26. Explore secure document sharing options in MS Word or OneDrive.
27. Demonstrate how to set a password for a Word or Excel document.
28. Discuss and list best practices for securing digital documents.