

# **Programme Structure**

**School of Engineering &  
Technology**

**Diploma in  
Computer Science &  
Engineering**

**Programme Code: 0101**

**Batch: 2025-2028**

### **Vision of the University**

To be recognized as an Institution of excellence, facilitating learning, fostering creativity, knowledge creation, innovations, consultancy and leadership in multiple areas to build a conscious community that will positively impact living beings for a sustainable future.

### **Mission of the University**

**1. Offers a wide range of Undergraduate and Post graduate Courses.**

To create conducive environment for an interactive and application oriented experiential learning making the Institute a preferred destination for work and study.

**2. Research, Innovation, Consultancy & Entrepreneurial Culture**

To Foster creativity, research and innovation orientation in students and faculty in basic and applied areas in all of its disciplines, provide cost effective solutions and nurture entrepreneurial capabilities to accelerate growth.

**3. Social Relevance with local actions on global thoughts**

To act as a catalyst in social change by developing academic, social, political, technological, scientific, industrial and business leadership in the spirit “Think Globally and Act Locally”; by providing ample opportunities to develop team spirit, sportsmanship and love for culture and national heritage.

### **Core Values**

**Integrity**  
**Leadership**  
**Diversity**  
**Community**

### **Vision of the School of Engineering & Technology**

To become a center of excellence for providing quality and value based education in the field of diploma engineering that will produce skilled technocrats to meet industry requirements.

### **Mission of the School of Engineering & Technology**

- To provide technical knowledge and skills by using latest engineering tools.
- To facilitate industry-institute interaction to explore the industrial knowledge of the students.
- To inculcate ethical and professional values among students.
- To impart quality education to the students coming from rural parts and to conduct different curricular & co-curricular activities to enhance the academic.

### **Core Values**

**Integrity**  
**Leadership**  
**Diversity**  
**Community**

## **Programme Educational Objectives (PEO's)**

- PEO 1.** To provide a strong foundation in computer science, programming, and computational problem-solving along with effective communication and entrepreneurial skills for addressing societal and industrial needs.
- PEO 2.** To equip students with sound scientific, mathematical, and engineering knowledge required to design, develop, and implement innovative software and hardware solutions for real-life problems.
- PEO 3.** To prepare diploma engineers with technical competence to face challenges in the IT industry, pursue higher education, and adapt to emerging technologies.
- PEO 4.** To instill lifelong learning, leadership qualities, teamwork, professional ethics, and social responsibility so that students remain updated with technological advancements and contribute effectively to society.

## PROGRAMME OUTCOMES (POs)

- PO 1. Basic and Discipline-specific Knowledge:** Apply knowledge of mathematics, science, and core concepts of computer science and engineering to solve computing and engineering-related problems.
- PO 2. Problem Analysis:** Identify, analyze, and troubleshoot well-defined problems in the field of computer science using standard practices, coding techniques, and logical reasoning.
- PO 3. Design and Development of Solutions:** Design and implement software applications, databases, and simple system-level solutions to meet specified user needs.
- PO 4. Engineering Tools, Experimentation, and Testing:** Use modern programming environments, software tools, and testing frameworks to develop, debug, and validate computing solutions. Tools, Experimentation and Testing:
- PO 5. Computing Practices for Society, Sustainability, and Environment:** Apply appropriate computing technologies considering ethical practices, cybersecurity, sustainability, and societal needs.
- PO 6. Project Management and Communication:** Apply project management skills individually and in teams, demonstrating effective communication in both technical and non-technical contexts.
- PO 7. Lifelong Learning:** Recognize the need for lifelong learning and acquire the ability to keep pace with emerging tools, technologies, and innovations in the field of computer science and engineering.

## **PROGRAMME SPECIFIC OUTCOMES (PSOs)**

- PSO 1.** An Apply programming concepts, algorithms, and data structures to design, develop, test, and maintain reliable software applications.
- PSO 2.** An Demonstrate practical knowledge of computer hardware, operating systems, networks, and databases to configure, manage, and troubleshoot computing systems.
- PSO 3.** Design and deploy web-based applications and adapt to emerging areas like mobile computing, cloud technologies, and cyber security.
- PSO 4.** An Apply technical skills, teamwork, communication, and ethical values to excel in industry, pursue higher education, or initiate entrepreneurial ventures.



# SDGI GLOBAL UNIVERSITY, GHAZIABAD

## SCHOOL OF ENGINEERING & TECHNOLOGY

### SCHEME OF STUDIES AND EVALUATION FOR DIPLOMA IN COMPUTER SCIENCE & ENGINEERING

**W.E.F. Session : 2025-26**

**(Batch : 2025-2028)**

**Semester - I**

S. No	Status	Paper Code	Subjects	Study Scheme Lec / Week			Hours	Credits	CIE	ESE	Total	Pass Marks
				L	T	P						
1	DSC	D01AS25101	*Applied Mathematics - I	4	0	-	4	4	50	50	100	40
2	DSC	D01AS25102	*Applied Physics	3	0	-	3	3	50	50	100	40
3	AEC	BSGUAE2401	*English Language Proficiency	2	0	-	2	2	50	50	100	40
4	DSC	D010125104	Fundamental of Computer and Information Technology	3	0	-	3	3	50	50	100	40
5	DSC	D010125105	Computational Thinking and Programming	3	0	-	3	3	50	50	100	40
6	SEC	BSGUSE2410	*Office Automation	2	0	-	2	2	25	25	50	20
7	DSC	D01AS25152	*Applied Physics Lab	-	-	2	2	1	60	40	100	40
8	DSC	D010125154	Fundamental of Computer and Information Technology Lab	-	-	2	2	1	60	40	100	40
9	DSC	D010125155	Computational Thinking and Programming Lab	-	-	2	2	1	60	40	100	40
10	SEC	BSGUSE2460	*Office Automation Lab	-	-	2	2	1	30	20	50	20
<b>Total</b>				<b>17</b>	<b>0</b>	<b>8</b>	<b>25</b>	<b>21</b>	<b>485</b>	<b>415</b>	<b>900</b>	<b>360</b>

\*Subjects denotes the subject that are common with other Diploma programs

# **1<sup>st</sup> Semester**

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1<sup>st</sup></b>
<b>Course Name-*Applied Mathematics - I</b>			
<b>A.Y: 2025-26</b>	<b>Course Code- D01AS25101</b>	<b>Batch- 2025-28</b>	<b>CIE Marks- 50(MM)</b>
<b>Total Teaching Hours- 46</b>	<b>Total Credits- 04</b>		<b>ESE Marks-50(MM)</b>
<b>Type of Course- Theory</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
This course offers a fundamental understanding of elementary mathematics and its applications in engineering problem-solving. Students will learn to utilize key mathematical functions, including logarithms, partial fractions, matrices, as well as basic 2D geometry and curves. By mastering these concepts, students will gain the necessary skills to address engineering challenges across all disciplines effectively.			
<b>UNIT</b>	<b>Topics</b>		<b>No. of Teaching hours/ (Lecture)</b>
<b>1</b>	<b>Algebra-I</b> 1.1 Polynomials, degree of Polynomials, Minimisation of Polynomials. 1.2 Solution of Linear equations, Solution of Quadratic Equations. (Factorisation method, by using formula). 1.3 Series: AP and GP; Sum, nth term, Mean 1.4 Matrices and Determinants: Matrix, Types and basic properties, Elementary properties of determinant of order 2 and 3, Consistency of equation, Crammer's rule.		<b>10</b>
<b>2</b>	<b>Algebra –II</b> 2.1 Complex number: Complex numbers, Representation, Modulus and amplitude Demoivre theorem, its application in solving algebraic equations. 2.2 Addition and subtraction of Vectors, Resolution of vectors, Dot and Cross product of Vectors.		<b>08</b>
<b>3</b>	<b>Trigonometry and Inverse Trigonometric Functions</b> 3.1 Graphs of Trigonometric Functions, effect of Magnitude scaling and time scales, time shifting (phase shifting). 3.2 Trigonometric Functions and Identities. 3.3 Inverse Trigonometric functions: Simple case only.		<b>08</b>
<b>4</b>	<b>Differential Calculus – I</b> 4.1 Functions, limits, continuity, functions and their graphs, range and domain, elementary methods of finding limits (right and left), elementary test for continuity and differentiability. 4.2 Methods of finding derivative, Trigonometric functions, exponential function, Function of a function, Logarithmic differentiation, Differentiation of Inverse trigonometric function, Differentiation of implicit functions.		<b>10</b>
<b>5</b>	<b>Differential Calculus – II</b> 5.1 Higher order derivatives, Simple applications. 5.2 Application - Finding Tangents, Normal, Points of Maxima/Minima, Increasing/Decreasing functions, Rate, Measure, Velocity, Acceleration.		<b>10</b>

## Course Outcomes

- CO1:** Identify and apply methods for solving linear and quadratic equations, including Cramer's rule.(K3)
- CO2:** Illustrate operations with complex numbers and vectors, including dot and cross products. (K3)
- CO3:** Apply trigonometric identities and graph transformations for various engineering problems.(K3)
- CO4:** Identify and explain continuity, differentiability, and compute derivatives using standard methods.(K3)
- CO5:** Apply derivatives to find tangents, normals, and analyze functions for maxima, minima, and rates of change.( K3)

### Text books:

1. Applied Mathematics-I by Kailash Sinha and Varun Kumar; Aarti Publication, Meerut.
2. Applied Mathematics-I by Chauhan and Chauhan, Krishna Publications, Meerut.
3. Applied Mathematics-I by Chauhan and Chauhan, Krishna Publications, Meerut.

### Reference books:

1. Elementary Engineering Mathematics by BS Grewal, Khanna Publishers, New Delhi
2. Engineering Mathematics, Vol I & II by SS Sastry, Prentice Hall of India Pvt. Ltd.

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1<sup>st</sup></b>
<b>Course Name- APPLIED PHYSICS</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D01AS25102</b>	<b>Batch- 2025-28</b>	<b>CIE Marks- 50(MM)</b>
<b>Total Teaching Hours- 38</b>	<b>Total Credits- 03</b>		<b>ESE Marks-50(MM)</b>
<b>Type of Course- Theory</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
Physics is a field that explores various subjects relevant to our surroundings. It seeks to understand the natural world through observation and predicting how objects interact. The course emphasizes a strong understanding of physical laws and their practical applications in engineering and technology across different disciplines. Through this study, students gain insights into the behavior of objects and their relevance in real-world scenarios.			
<b>UNIT</b>	<b>Topics</b>		<b>No. of Teaching hours/(Lecture)</b>
<b>1</b>	<b>Fundamentals of Units, Measurement, Errors, and Vector Analysis</b> 1.1 Need of Measurement, physical Quantity - fundamental and derived, systems of units (FPS, CGS and SI units), Dimensions and dimensional formulae of physical quantities. conversion of numerical values of physical quantities from one system of units into another 1.2 Error in measurement, accuracy and precision of instruments, percentage error, Combination of errors in addition, subtraction, multiplication, division and powers, rules for representing significant figures in calculation. <b>1.3</b> Scalar and vector quantities – examples, representation of vector, types of Vectors, Unit Vector, Vector Addition and Subtraction, Triangle and Parallelogram law (Statement only), difference between vector and scalar addition using examples, Scalar and Vector Product, Resolution of Vectors using the example of stationary object, falling object, moving object.		<b>08</b>
<b>2</b>	<b>Force and Motion</b> 2.1 Force, Momentum, Statement of Conservation of linear momentum, discuss using examples such as recoil of gun, Impulsive force and its examples, 2.2 Circular motion (Uniform and Non-uniform), definition of angular, displacement, angular velocity, angular acceleration, frequency, time period, Relation between linear and angular velocity, linear acceleration and angular acceleration (numerical practice) Centripetal and centrifugal forces with examples such as banking of roads and bending of cyclist, Principle of centrifuge, Application of various forces in lifts, cranes, large steam engines and turbines.		<b>08</b>

3	<p><b>Work, Power and Energy</b></p> <p>3.1 Work: and its units, examples of zero work, positive work and negative work, conservative and non-conservative force, Friction: modern concept, types, laws of limiting friction, Coefficient of friction and its Engineering Applications, Work done in moving an object on horizontal and inclined plane for rough and plane surfaces with its applications Application of Friction in brake system of moving vehicles, bicycle, scooter, car trains etc.</p> <p>3.2 Power and its units, calculation of power in numerical problems</p> <p>3.3 Energy and its units: Kinetic energy and potential energy with examples and their derivation, work energy theorem, Principle of conservation of mechanical energy for freely falling bodies, examples of transformation of energy.</p>	06
4	<p><b>Rotational Motion and Gravitational Force</b></p> <p>4.1 Concept of translatory and rotatory motions with examples, Definition of torque with examples, Angular momentum, Conservation of angular momentum and its examples</p> <p>4.2 Moment of inertia and its physical significance, radius of gyration for rigid body, Theorems of parallel and perpendicular axes (statements only), Moment of inertia of rod, disc, ring and sphere (hollow and solid) (Formulae only). Concept of Fly wheel.</p> <p>4.3 Rotational kinetic energy, Rolling of sphere on the slant plane, Comparison of linear motion and rotational motion, Application of rotational motions in transport vehicles, and machines</p> <p>4.4 Gravitational force, Acceleration due gravity and its variation</p>	08
5	<p><b>Properties of Matter &amp; Thermodynamics</b></p> <p>5.1 Elasticity: definition of stress and strain, different types of moduli of elasticity, Hooke's law, significance of stress strain curve</p> <p>5.2 Pressure: definition, its units, atmospheric pressure, gauge pressure, absolute pressure, Fortin's Barometer, and its applications</p> <p>5.3 Surface tension: concept, its units, angle of contact, Capillary action and determination of surface tension from capillary rise method, applications of surface tension, effect of temperature and impurity on surface tension</p> <p>5.4 Viscosity and coefficient of viscosity: Terminal velocity, Stoke's law and effect of temperature on viscosity, application in hydraulic systems.</p> <p>5.5 Concept of fluid motion, stream line and turbulent flow, Reynold's number Equation of continuity, Bernoulli's Theorem and their applications</p> <p>5.6 Difference between heat and temperature, Modes of transfer of heat (Conduction, convection and radiation with examples), Different scales of temperature and their relationship, Isothermal and Adiabatic process, Zeroth, First and second law of thermodynamics, Heat engine (concept Only), Carnot cycle, Application of various systems of thermometry in refrigeration and air conditioning etc</p>	08
<p><b>Course Outcomes</b></p> <p><b>CO1:</b> Understand and apply the fundamentals of units, dimensions, errors, and vector analysis</p> <p><b>CO2:</b> Analyze and explain the principles of force, motion, momentum, and circular motion with real-life applications</p> <p><b>CO3:</b> Evaluate work, energy, power, and the role of friction in mechanical systems</p> <p><b>CO4:</b> Interpret and apply concepts of rotational dynamics and gravitational force to engineering problems</p> <p><b>CO5:</b> Apply principles of properties of matter and thermodynamics in mechanical and fluid systems</p>		

**Text books:**

1. Text Book of Physics for Class XI (Part-I, Part-II); N.C.E.R.T., Delhi
2. Text Book of Applied Physics-I by P. S. Kushwaha; Bharat Bharati Prakashan, Meerut.
3. Text Book of Applied Physics-I by P.Gupta; Asian Publishers, Meerut.

**Reference books:**

1. Concepts in Physics by HC Verma, Vol. I & II, Bharti Bhawan Ltd. New Delhi
2. Comprehensive Practical Physics, Vol, I & II, JN Jaiswal, Laxmi Publications (P) Ltd.
3. Engineering Physics by PV Naik, Pearson Education Pvt. Ltd, New Delhi
4. Engineering Physics by DK Bhattacharya & Poonam Tandan; Oxford University Press.
5. Modern Engineering Physics by SL Gupta, Sanjeev Gupta, Dhanpat Rai Publications
6. Physics-I by V. Rajendran, Tata McGraw-Hill raw Hill publication, New Delhi.

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester-1<sup>st</sup></b>
<b>Course Name- ENGLISH LANGUAGE PROFICIENCY</b>			
<b>A.Y 2025-26</b>	<b>Course Code- BSGUAE2401</b>	<b>Batch- 2025-28</b>	<b>CIE Marks- 50(MM)</b>
<b>Total Teaching Hours-30</b>	<b>Total Credits- 02</b>		<b>ESE Marks-50(MM)</b>
<b>Type of Course- Theory</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
Proficiency in the Hindi & English language plays a pivotal role in advancing one's career. This subject focuses on instilling fundamental principles of effective communication while prioritizing the cultivation of essential skills such as active listening, articulate speaking, proficient reading, and proficient writing as integral components of Communication Skills development.			
<b>UNITS</b>	<b>TOPICS</b>		<b>No. of Teaching hours/(Lecture)</b>
<b>1</b>	<b>English Grammar and Usage</b> Parts of Speech, Tenses: Past, Present, Future, Subject-Verb Agreement, Active and Passive Voice, Direct and Indirect Speech		<b>06</b>
<b>2</b>	<b>Vocabulary Building</b> Synonyms and Antonyms, Word Formation, Idioms and Phrases, Homophones and Homonyms, One Word Substitutions.		<b>06</b>
<b>3</b>	<b>Reading and Comprehension</b> Techniques for Effective Reading, Skimming and Scanning, Summarizing and Paraphrasing, Comprehension Passages, Analysing Texts		<b>06</b>
<b>4</b>	<b>Writing Skills</b> Essay Writing: Argumentative, Descriptive, Narrative, Letter Writing: Formal and Informal, Report Writing, Email Writing, Creative Writing		<b>06</b>
<b>5</b>	<b>Literature and Critical Thinking</b> 5.1 Short Stories 5.1.1 "The Last Leaf" by O. Henry 5.1.2 "The Necklace" by Guy de Maupassant 5.2 Poems 5.2.1 "The Road Not Taken" by Robert Frost 5.2.2 "If" by Rudyard Kipling 5.3 Drama 5.3.1 Excerpts from "Macbeth" by William Shakespeare 5.4 Literary Analysis and Interpretation		<b>06</b>
<b>Course Outcomes</b>			
<b>CO1:</b> Identify and apply the rules of English to form sentences. <b>(K1)</b>			
<b>CO2:</b> Recognize and use appropriate vocabulary to enhance communication. <b>(K1)</b>			
<b>CO3:</b> Demonstrate reading comprehension skills by applying techniques like skimming, scanning, summarizing, and analyzing texts. <b>(K3)</b>			
<b>CO4:</b> Apply writing skills for essays, letters, reports, and emails using correct structure and format. <b>(K3)</b>			
<b>CO5:</b> Discuss literary texts, including short stories, poems, and drama, to develop critical thinking skills. <b>(K3)</b>			

**Text Books:**

1. Communication Skills-I by R. Thakur; Nageen Prakashan, Meerut.
2. Communication Skills-I by Malti Agarwal; Krishna Prakashan Media (P) Ltd., Meerut.

**Reference Books:**

1. Communicating Effectively in English, Book-I by Revathi Srinivas; Abhishek Publications, Chandigarh.
2. Communication Techniques and Skills by R. K. Chadha; DhanpatRai Publications, New Delhi.
3. High School English Grammar and Composition by Wren & Martin; S. Chand & Company Ltd., Delhi.

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1st</b>
<b>Course Name- FUNDAMENTALS OF COMPUTER AND INFORMATION TECHNOLOGY</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D010125104</b>	<b>Batch-2025-28</b>	<b>CIE Marks- 50(MM)</b>
<b>Total Teaching Hours- 40</b>	<b>Total Credits- 03</b>		<b>ESE Marks-50(MM)</b>
<b>Type of Course- Theory</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
<p>The course <i>Fundamentals of Computer</i> aims to provide students with a comprehensive understanding of basic computer concepts, including the structure and functioning of computer systems. It introduces students to various hardware components, types of software, and memory devices. The course covers data representation through number systems such as binary and hexadecimal. Students will learn about computer software and hardware, data communication methods, and networking concepts including topologies and devices. Additionally, the course familiarizes learners with internet usage, email communication, and modern developments in information technology such as cloud computing, big data, IoT, augmented/virtual reality, and 5G.</p>			
<b>UNIT</b>	<b>Topics</b>		<b>No. of Teaching hours/(Lecture)</b>
<b>1</b>	<b>Fundamentals of Computer</b> 1.1 Basics of Computers: Meaning, Characteristics & Classification of Computers, Types, Application of computers in modern society, Components of a computer system – Control unit, ALU, Input/Output, Memory & its types, Mother Board, Configurations of Computer system, Types of PCs- Desktop, Laptop, Notebook, Palmtop, PDA, Special Purpose computers, Supercomputers Characteristics and area of Uses. 1.2 Input Devices: Keyboard, Terminals and its types. Pointing Devices, Scanners and its types, Voice Recognition Systems, Vision Input System, and Touch Screen. 1.3 Output Devices: Monitors and its types. Printers: Impact Printers and its types. Non- Impact Printers and its types, Plotters, types of plotters, Sound cards, Speakers. 1.4 Memory Devices: Primary memory, Secondary memory, Various Storage Devices – Magnetic Tape, Magnetic Disks, hard disk, Floppy disk, Pen drive, Solid – State Drives (SSD).		<b>08 Hours</b>
<b>2</b>	<b>Data Representation</b> 2.1 Definition Of Data and Information, difference between data and information, importance of Binary Number System, various number systems, Conversion from Decimal to Binary, Conversion from Binary to Decimal, binary number into hexadecimal number, hexadecimal number into binary number System, Memory Addressing and its Importance, ASCII, and EBCDIC coding System.		<b>08 Hours</b>

<b>3</b>	<b>Computer Software &amp; Hardware</b> 3.1 Introduction to Software and Hardware, Types of Software – System Software, Application Software. System Software – Operating System, utility Program. Assemblers, Compilers and Interpreter, Programming Languages – Machine, Assembly, High level. Computer Virus- Virus,	<b>08 Hours</b>
<b>4</b>	<b>Data Communication and Network</b> 4.1 Data Communication and Networking: Modes of Communication, Digital & Analog Signals, Modems, Topologies of Network., Transmission Modes – Simplex, Half Duplex, Duplex, Overview of Computer Networks, Types of networking architecture (Client server and peer-to-peer), Common Networking devices (Switch, Router, Hub, Bridge, Gateway) and their functions and roles in a network, Types of Networks - LAN, MAN, WAN, IP address and its format, MAC Address.	<b>08 Hours</b>
<b>5</b>	<b>Basics of Internet &amp; Browsing</b> 5.1 Internet & Browsing: Meaning, Concept, ISP, Uses of Internet, Intranet, Extranet, World Wide Web (WWW) and its working, Web Browser and its function, DNS, Concept of Search Engines. 5.2 E-Mail: Concept, E-Mail Address, SMTP, Services, Basics of sending and receiving E-Mails and attaching files with them. 5.3 Emerging Trends in Information Technology: Cloud Computing, Big Data, Internet of Things, Augmented Reality/Virtual Reality and 5G.	<b>08 Hours</b>

#### **Course Outcomes**

- CO1** : Explain the basic concepts of computer systems, their types, components, and functions.(**K2**).
- CO2** : Classify and describe input, output, and memory devices used in computer systems.(**K2**)
- CO3** : Convert data between different number systems and explain coding systems like ASCII and EBCDIC.(**K3**)
- CO4** : Differentiate between hardware and software types, and explain programming tools and antivirus methods.(**K2**)
- CO5** : Explain the fundamentals of data communication, internet technologies, and emerging trends in IT.(**K3**)

#### **Text books:**

1. Fundamentals of Computer and Information Technology by Rashmi, Ashish, Jai Prakash Nath Publications, Meerut.
2. Fundamentals of Computer and Information Technology by Rahul Wadwa, Asian Publishers, Muzaffarnagar.

#### **Reference books:**

1. Computer Fundamentals by RS Salaria; Khanna Book Publishing Co. (P) Ltd., New Delhi.
2. Fundamentals of Computer by E Balagurusamy, Tata McGraw Hill Education Pvt. Ltd, New Delhi
3. Introduction to Information Technology by V. Rajaraman.
4. Computers Today by SK Basandara, Galgotia publication Pvt. Ltd, Daryaganj, New Delhi.
5. Computer Networks by Andrew S. Tanenbaum and David J. Wetherall.

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1st</b>
<b>Course Name- COMPUTATIONAL THINKING AND PROGRAMMING</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D010125105</b>	<b>Batch- 2025-28</b>	<b>CIE Marks- 50(MM)</b>
<b>Total Teaching Hours- 40</b>	<b>Total Credits- 03</b>		<b>ESE Marks-50(MM)</b>
<b>Type of Course- Theory</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
<p>The course <i>Introduction to Computational Thinking &amp; Programming</i> is designed to develop a foundational understanding of computational thinking and structured programming concepts. It introduces students to algorithms, flowcharts, pseudo code, and programming paradigms. The course also familiarizes learners with the basics of C programming, including syntax, data types, variables, operators, and input/output operations. Students will gain practical knowledge of control and looping statements essential for decision making and iterative processes. Additionally, the course covers the concept, types, and implementation of functions, including recursion, to build efficient and modular code.</p>			
<b>UNIT</b>	<b>Topics</b>		<b>No. of Teaching hours/(Lecture)</b>
<b>1</b>	<b>Introduction to Computational Thinking &amp; Programming</b>		<b>08 Hours</b>
	<p>1.1 Introduction to Computational Thinking: What is computational thinking? Importance &amp; characteristics of computational thinking, Algorithms, Basic characteristics &amp; importance of an algorithm, Complexity of algorithm, Representation of algorithm, Concepts of flowchart, Pseudo code</p> <p>1.2 Introduction to Programming: What is programming? Why programming? Programming Paradigms, Preprocessors, Debugging, Compiling, Concept of a program, program development life cycle.</p>		
<b>2</b>	<b>Basic Concepts</b>		<b>08 Hours</b>
	<p>2.1 Structured programming, Syntax and Semantics, Structure of a C program, Input/Output, Tokens, Keywords, Identifiers, Naming Conventions of identifiers, Data Types, Variables and constants, Operators.</p>		
<b>3</b>	<b>3.1 Definition, types of control statements, importance of control statements, decision making with if statement, nested if, if-else statement, if-else-if ladder.</b>		<b>06 Hours</b>
<b>4</b>	<b>Looping Statements</b>		<b>08 Hours</b>
	<p>4.1 Introduction to loop statements, Types of loop statements, for loop, while loop, do-while loop, nested loops, break, continue, and return statements.</p>		
<b>5</b>	<b>Functions</b>		<b>06 Hours</b>
	<p>5.1 Definition and importance of a function, types of functions, function definition, function call, recursive functions.</p>		

**Course Outcomes**

**CO1** : Describe the concept, characteristics, and importance of computational thinking and algorithms.(**K2**)

**CO2** : Develop flowcharts and pseudo code to represent algorithms effectively.(**K3**)

**CO3** : Explain the basic structure of a C program and identify different elements like keywords, data types, and operator(**K2**)

**CO4** : Use control and loop statements for decision making and iteration in programming.(**K3**)

**CO5** : Define and implement functions including recursion for modular program design.(**K3**)

**Text books:**

1. . Basics of C Programming by Amit Yadav, Arihant Publications, Meerut.

**Reference books:**

1. Computational Thinking for the Modern Problem Solver by David D. Riley and Kenny A. Hunt.

2. Computational Thinking by Peter J. Denning and Matti Tedre.

3. Programming in ANSI C by E Balaguruswami, Tata McGraw Hill Education Pvt Ltd, New Delhi.

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name-</b> School of Engineering & Technology			
<b>Program-</b> Diploma in Computer Science & Technology			<b>Semester-1st</b>
<b>Course Name-</b> OFFICE AUTOMATION			
<b>A.Y: 2025-2026</b>	<b>Course Code-</b> BSGSUE2410	<b>Batch: 2025-28</b>	<b>CIE Marks-25</b>
<b>Total Teaching Hours-30</b>	<b>Total Credits-02</b>		<b>ESE Marks-25</b>
<b>Type of Course- Theory</b>			<b>Total Marks-50</b>
<p><b>Course Objectives/Course Description</b>  This subject aims to cover the handling of whole field of word processing. It also involves various clerical tasks, such as organizing customer data or creating reports. It enables people with lower skill levels to perform higher-level tasks. In Today's commercial world, automation helps the users with a sophisticated set of commands to format, edit, and print text documents. It is used as valuable and important tools in the creation of application such as newsletters, brochures, charts, presentation, documents, drawings and other graphic images. This will make the students proficient in office automation applications.</p>			
<b>UNIT</b>	<b>Topics</b>		<b>No. of Teaching hours/ (Lecture)</b>
<b>1</b>	Microsoft Word Basics & Advanced Features		<b>06</b>
	1.1 Introduction to Microsoft Word <ul style="list-style-type: none"> <li>• Basic features of Word processors (Microsoft Word/Libre Office/Open Office).</li> <li>• Overview of the user interface: ribbon, quick access toolbar, navigation pane.</li> </ul> 1.2 Formatting Documents <ul style="list-style-type: none"> <li>• Changing fonts, font sizes, and colors.</li> <li>• Using bold, italic, and underline to emphasize text.</li> <li>• Working with subscript and superscript.</li> </ul> 1.3 Document Layout <ul style="list-style-type: none"> <li>• Justifying text (left, right, center, and full).</li> <li>• Using bullets and numbering to create lists.</li> <li>• Page setup: Margins, orientation, page size.</li> </ul> 1.4 Headers, Footers, and Page Breaks <ul style="list-style-type: none"> <li>• Inserting page numbers, headers, and footers.</li> <li>• Managing page breaks and section breaks.</li> <li>• Adjusting line spacing and paragraph settings.</li> </ul> 1.5 Advanced Features: Mail Merge and Macros <ul style="list-style-type: none"> <li>• Creating a mail merge for letters, labels, or envelopes.</li> <li>• Introduction to macros: Creating, recording, and using macros to automate repetitive tasks.</li> </ul>		
<b>2</b>	Microsoft Word Tables & Document Enhancement		<b>06</b>
	2.1 Working with Tables <ul style="list-style-type: none"> <li>• Inserting and formatting tables.</li> <li>• Merging and splitting cells.</li> <li>• Adding borders, shading, and formatting table content.</li> <li>• Inserting and deleting rows and columns.</li> </ul> 2.2 Proofing Tools <ul style="list-style-type: none"> <li>• Applying spelling and grammar checks.</li> <li>• Using the thesaurus for alternative word suggestions.</li> </ul>		

	<ul style="list-style-type: none"> <li>• Setting up autocorrect options.</li> </ul> <p>2.3 Creating Professional Documents</p> <ul style="list-style-type: none"> <li>• Designing brochures using templates.</li> <li>• Page setup for documents and print preview options.</li> <li>• Printing documents: Full and selected pages.</li> </ul> <p>2.4 Document Navigation and Protection</p> <ul style="list-style-type: none"> <li>• Adding bookmarks and hyperlinks for document navigation.</li> <li>• Using features like password protection, track changes, and comments.</li> </ul>	
<b>3</b>	<b>Microsoft Excel Basics &amp; Data Manipulation</b>	<b>06</b>
	<p>3.1 Introduction to Microsoft Excel</p> <ul style="list-style-type: none"> <li>• Overview of the Excel interface.</li> <li>• Creating, saving, and opening workbooks.</li> </ul> <p>3.2 Cell Management &amp; Data Entry</p> <ul style="list-style-type: none"> <li>• Adding, deleting, and merging cells.</li> <li>• Formatting cells and adjusting row/column layout.</li> <li>• Using predefined functions: SUM, AVERAGE, COUNT, etc.</li> </ul> <p>3.3 Working with Multiple Worksheets</p> <ul style="list-style-type: none"> <li>• Switching between multiple worksheets and workbooks.</li> <li>• Creating linked data between worksheets.</li> </ul> <p>3.4 Advanced Excel Features</p> <ul style="list-style-type: none"> <li>• Using LOOKUP and VLOOKUP functions.</li> <li>• Working with formulas and applying automatic calculations.</li> <li>• Creating and formatting different types of charts.</li> </ul>	
<b>4</b>	<b>Microsoft PowerPoint Basics &amp; Presentation Techniques</b>	<b>06</b>
	<p>4.1 Introduction to PowerPoint</p> <ul style="list-style-type: none"> <li>• Overview of PowerPoint interface.</li> <li>• Creating and saving presentations using slide templates.</li> </ul> <p>4.2 Adding and Formatting Content</p> <ul style="list-style-type: none"> <li>• Adding text, images, tables, and charts.</li> <li>• Applying transitions and animations to slides</li> </ul> <p>4.3 Multimedia Elements in PowerPoint</p> <ul style="list-style-type: none"> <li>• Inserting movies, sounds, and audio clips.</li> <li>• Customizing slide layout and color schemes.</li> </ul> <p>4.4 Presenting and Sharing PowerPoint's</p> <ul style="list-style-type: none"> <li>• Viewing presentations using slide navigator.</li> <li>• Running and printing presentations.</li> <li>• Exporting PowerPoint presentations as PDFs or videos.</li> </ul>	
<b>5</b>	<b>G Suite (Google Workspace) &amp; Collaborative Tools</b>	<b>06</b>
	<p>5.1 Introduction to Google Drive</p> <ul style="list-style-type: none"> <li>• Creating, uploading, and organizing files/folders in Google Drive.</li> <li>• Sharing files with permissions (view, edit, comment).</li> </ul> <p>5.2 Google Docs and Sheets</p> <ul style="list-style-type: none"> <li>• Creating and sharing Google Docs for collaboration.</li> <li>• Using Google Sheets to manage and share data.</li> <li>• Collaborative features: Comments, suggestions, and real-time editing.</li> </ul> <p>5.3 Google Slides and Forms</p> <ul style="list-style-type: none"> <li>• Creating and sharing Google Slides for presentations.</li> <li>• Designing Google Forms for surveys and data collection.</li> </ul> <p>5.4 Integration and Cloud Collaboration</p> <ul style="list-style-type: none"> <li>• Integrating Google Docs, Sheets, and Slides within Drive.</li> <li>• Best practices for real-time collaboration and version control.</li> </ul>	
<p><b>CO1:</b> Describe the basic concepts of computer systems, operating systems, and their role in office automation. (K2)</p>		

**CO2:** Demonstrate proficiency in word processing tools for creating, formatting, and managing professional documents. (K3)

**CO3:** Apply spreadsheet functions and formulas for data entry, analysis, and visualization in office-related tasks. (K3)

**CO4:** Prepare and design effective presentations using multimedia features for professional communication. (K3)

**CO5:** Utilize database and internet applications for information storage, retrieval, and office communication. (K2)

**Text Books:**

1. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
2. Information Technology for Management by Henery Lucas, Tata McGraw Hills, New Delhi

**Reference Books:**

1. Fundamentals of Information Technology by VipinArora, Eagle Parkashan, Jalandhar
2. Computer Fundamentals by P.K Sinha; BPB Publication, New Delhi

**Assessment method:** (Continuous Internal Assessment = 50%, Final Examination = 50%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1<sup>st</sup></b>
<b>Course Name- APPLIED PHYSICS LAB</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D01AS25152</b>	<b>Batch-2025-28</b>	<b>CIE Marks- 60(MM)</b>
<b>Total Teaching Hours-2/Week</b>	<b>Total Credits- 01</b>		<b>ESE Marks-40(MM)</b>
<b>Type of Course- Practical</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
<p>The Applied Physics Lab introduces students to the practical application of fundamental physical principles through hands-on experiments. This course complements the theoretical knowledge of mechanics, properties of matter, and thermodynamics covered in the lecture sessions. Through experiments involving measurement techniques, vector mechanics, rotational motion, elasticity, viscosity, and energy conservation, students will gain a deeper understanding of physical laws and develop essential experimental and analytical skills. The course emphasizes accuracy in observation, safe laboratory practices, data recording, and analysis.</p>			
<b>Experiment No.</b>	<b>Experiment Name</b>		<b>No. of Teaching hours/ (Labs)</b>
1.	To find radius of wire and its volume and the maximum permissible error in these quantities by using both screw gauge.		
2.	To find diameter of metallic bob and use it to calculate its volume. Also Find the maximum permissible error in these quantities by using Vernier callipers.		
3.	To verify parallelogram law of vector addition and Subtraction.		
4.	To find the Moment of Inertia of a flywheel about its axis of rotation.		
5.	To find the value of acceleration due to gravity on the surface of earth by using a simple pendulum.		
6.	To study conservation of energy of a ball or cylinder rolling down an inclined plane		
7.	To determine the viscosity of glycerine by Stoke's method.		
8.	To determine force constant of spring using Hooks law.		
9.	Simulation Practical-1		
10.	Simulation Practical-2		
<b>Course Outcomes</b>			
<p><b>CO1:</b> Measure linear dimensions using Vernier callipers and screw gauge to calculate volume and permissible error.(K3)</p> <p><b>CO2 :</b> Experimentally verify the parallelogram law of vector addition and subtraction.(K2)</p> <p><b>CO3 :</b> Determine moment of inertia of a flywheel and understand its application in rotational motion.(K3)</p> <p><b>CO4 :</b> Determine acceleration due to gravity using simple pendulum and analyze the effect of length on time period.(K3)</p> <p><b>CO5 :</b> Investigate physical properties like viscosity and spring constant using Stoke's method and Hooke's law respectively(K3)</p>			

**Text books:**

1. Text Book of Physics for Class XI (Part-I, Part-II); N.C.E.R.T., Delhi
2. Text Book of Applied Physics-I by P. S. Kushwaha; Bharat Bharati Prakashan, Meerut.
3. Text Book of Applied Physics-I by P.Gupta; Asian Publishers, Meerut.

**Reference books:**

1. Concepts in Physics by HC Verma, Vol. I & II, Bharti Bhawan Ltd. New Delhi
2. Comprehensive Practical Physics, Vol, I & II, JN Jaiswal, Laxmi Publications (P) Ltd.
3. Engineering Physics by PV Naik, Pearson Education Pvt. Ltd, New Delhi
4. Engineering Physics by DK Bhhatacharya & Poonam Tandan; Oxford University Press.
5. Modern Engineering Physics by SL Gupta, Sanjeev Gupta, Dhanpat Rai Publications
6. Physics-I by V. Rajendran, Tata McGraw-Hill raw Hill publication, New Delhi.

**Assessment method:** (Continuous Internal Assessment = 60%, Final Examination = 40%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1st</b>
<b>Course Name- FUNDAMENTAL OF COMPUTER AND INFORMATION TECHNOLOGY LAB</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D010125154</b>	<b>Batch-2025-28</b>	<b>CIE Marks- 60(MM)</b>
<b>Total Teaching Hours- 2/Week</b>	<b>Total Credits- 01</b>		<b>ESE Marks-40(MM)</b>
<b>Type of Course- Practical</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
The diploma holder in Computer Science & Engineering needs to have knowledge of computer hardware and information technology. They should possess they knowledge of various number systems, DOS, Operating systems & internet.			
<b>Experiment No.</b>	<b>Experiment Name</b>		<b>No. of Teaching hours/ (Labs)</b>
1.	Familiarization with Computer System and its peripheral devices.		
2.	Familiarization with Operating System.		
3.	Working practice on windows operating system: creating file, folder. Copying, Moving, deleting file, folder.		
4.	Installing and uninstalling of new software using control panel.		
5.	Installation and uninstallation of new hardware drivers using control panel.		
6.	Disk defragmentation using system tool.		
7.	Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).		
8.	Installation of Operating Systems.		
9.	Changing resolution, colour, appearances, and screensaver option of the display		
10.	Changing System Date and Time.		
11.	User Account creation and its feature on Windows Operating System.		
12.	Email Account creation, reading, writing and sending emails with attachments.		
13.	Internet browsing using browsers.		
14.	Using of Search Engine to get information from internet.		
<b>Course Outcomes</b>			
<b>CO1</b> : Identify various components and peripheral devices of a computer system and explain their functions.(K1)			
<b>CO2</b> : Demonstrate proficiency in basic file operations such as creating, copying, moving, and deleting files and folders in Windows.(K2)			
<b>CO3</b> : Perform installation/uninstallation of software and hardware drivers using the Control Panel.(K3)			
<b>CO4</b> : Manage disk utilities such as disk defragmentation, partitioning (shrinking, extending, formatting) using system tools.(K3)			
<b>CO5</b> : Create and manage an email account and use the internet for browsing and information search using search engines.(K3)			

**Text books:**

1. Fundamentals of Computer and Information Technology by Rashmi, Ashish, Jai Prakash Nath Publications, Meerut.
2. Fundamentals of Computer and Information Technology by Rahul Wadwa, Asian Publishers, Muzaffarnagar.

**Reference books:**

1. Computer Fundamentals by RS Salaria; Khanna Book Publishing Co. (P) Ltd., New Delhi.
2. Fundamentals of Computer by E Balagurusamy, Tata McGraw Hill Education Pvt. Ltd, New Delhi
3. Introduction to Information Technology by V. Rajaraman.
4. Computers Today by SK Basandara, Galgotia publication Pvt. Ltd. Daryaganj, New Delhi.
5. Computer Networks by Andrew S. Tanenbaum and David J. Wetherall.

**Assessment method:** (Continuous Internal Assessment = 60%, Final Examination = 40%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester- 1st</b>
<b>Course Name- COMPUTATIONAL THINKING AND PROGRAMMING LAB</b>			
<b>A.Y 2025-26</b>	<b>Course Code- D010125155</b>	<b>Batch-2025-28</b>	<b>CIE Marks- 60(MM)</b>
<b>Total Teaching Hours- 2/Week</b>	<b>Total Credits- 01</b>		<b>ESE Marks-40(MM)</b>
<b>Type of Course- Practical</b>			<b>Total Marks-100(MM)</b>
<b>Course Objectives/Course Description</b>			
<p>The course is designed to provide students with hands-on experience in basic programming using the C language. The primary objective is to develop logical thinking and problem-solving abilities by writing and executing simple programs. Students will learn to declare and use different data types, perform arithmetic operations, handle user input/output, and apply control statements like conditionals and loops. They will also gain experience in creating functions, implementing standard algorithms such as finding the factorial, Fibonacci series, and GCD, and working with various output patterns. Additionally, interactive applications such as a Rock, Paper, and Scissors game are included to foster creativity and practical programming skills.</p>			
<b>Experiment No.</b>	<b>Experiment Name</b>		<b>No. of Teaching hours/ (Labs)</b>
1.	Write a program to print "Hello, World!"		
2.	Write a C program to declare and initialize variables of different data types (int, float, and char).		
3.	Write a program for Addition, subtraction, multiplication and division of two pre-defined numbers.		
4.	Write a C program to read input from the user and display it on the screen.		
5.	Write a C program to get the two numbers input from user and provide the Addition, subtraction, multiplication, and division as results.		
6.	Write a program to find the area of a circle.		
7.	Write a program to get the input from user and calculate simple interest based on the input.		
8.	Write a program to convert temperature from Celsius to Fahrenheit.		
9.	Write a C program to use if statement to check if a number is even or odd.		
10.	Write a C program to check whether a given number is positive, negative, or zero.		
11.	Write a C program to check whether a given character is a vowel or a consonant.		
12.	Write a C program that takes a number as input and checks whether it falls within the range of 1 to 100.		
13.	Write a C program to check if a given number is divisible by both 3 and 5.		
14.	Write a C program to print numbers from 1 to given range.		
15.	Write a C program to calculate the sum of the first N natural numbers.		
16.	Write a C program to find the factorial of a given number.		

17.	Write a C program to print the first N terms of the Fibonacci sequence.	
18.	Write a C program to check whether a given number is an Armstrong number or not.	
19.	Write a C program to print the following pattern: * * * * * * * * * * * * * * *	
20.	Write a C program to print the following pattern: * * * * * * * * * * * * * * *	
21.	Write a C program to print the following pattern: * * * * * * * * * * * * * * *	
22.	Write a C program to print the following pyramid pattern: * * * * * * * * * * * * * * *	
23.	Write a C program to print the following inverted pyramid pattern: * * * * * * * * * * * * * * *	
24.	Write a function int gcd (int a, int b) that takes two integers and returns their GCD. Use this function in a program to find the GCD of two given numbers.	
25.	Write a program to Implement a Rock, Paper, and Scissors Game (with user input)	

### Course Outcomes

**CO1** : Understand and apply basic syntax and structure of C programming to write, compile and execute simple programs.(**K2**)

**CO2** : Develop programs using data types, variables, input/output operations, and basic arithmetic operations. (**K3**)

**CO3** : Construct programs using decision-making statements (if, else, if-else, etc.) and loops (for, while, do-while).( **K3**)

**CO4** : Write programs involving user-defined functions, recursion, and logic to solve mathematical problems like GCD, factorial, Fibonacci, etc.(**K3**)

**CO5** : Demonstrate the ability to solve real-world logical problems (e.g., Rock-Paper-Scissors, pattern printing) using control structures and modular programming.(**K2**)

**Text books:**

1. Basics of C Programming by Amit Yadav, Arihant Publications, Meerut.

**Reference books:**

1. Computational Thinking for the Modern Problem Solver by David D. Riley and Kenny A. Hunt.
2. Computational Thinking by Peter J. Denning and Matti Tedre.
3. Programming in ANSI C by E Balaguruswami, Tata McGraw Hill Education Pvt Ltd, New Delhi.

**Assessment method:** (Continuous Internal Assessment = 60%, Final Examination = 40%)

<b>School Name- School of Engineering &amp; Technology</b>			
<b>Program- Diploma in Computer Science &amp; Engineering</b>			<b>Semester-1st</b>
<b>Course Name- OFFICE AUTOMATION LAB</b>			
<b>A.Y 2025-26</b>	<b>Course Code- BSGUSE2460</b>	<b>Batch- 2025-28</b>	<b>CIE Marks- 60 (MM)</b>
<b>Total Teaching Hours: 2Hrs/Week</b>	<b>Total Credits-1</b>		<b>ESE Marks- 40 (MM)</b>
<b>Type of Course- Practical</b>			<b>Total Marks- 100 (MM)</b>
<b>Course Objectives/Course Description</b>			
<p>Information technology has great influence on all aspects of life. Primary purpose of using computer is to make the life easier. Almost all work places and living environment are being computerized. The subject introduces the fundamentals of computer system for using various hardware and software components. In order to prepare diploma holders to work in these environments, it is essential that they are exposed to various aspects of information technology such as understanding the concept of information technology and its scope; operating a computer; use of various tools using MS Office/Open Office/Libre Office using internet etc., form the broad competency profile of diploma holders. This exposure will enable the students to enter their professions with confidence, live in a harmonious way and contribute to the productivity.</p>			
<b>Experiment No.</b>	<b>Experiment Name</b>		<b>No. of Teaching hours/ (Labs)</b>
<b>1</b>	Tools to be used: Microsoft office/ Libre Office / Open Office / G Suite		
	<b>PRACTICING MS WORD</b>		
<b>2</b>	Creating a document using different font, changing font size and colour, changing the appearance through bold/italic/underline.		
<b>3</b>	Creating a document using subscript and superscript, justification of the document.		
<b>4</b>	Create a document using Bullets and Numbering.		
<b>5</b>	Create a document using page number, header and footer.		
<b>6</b>	Create a document using inserting page breaks and column break, line spacing.		
<b>7</b>	How to use mail merge and macro in MS Word.		
<b>8</b>	Creating table, formatting cells, use of different border styles, shading in tables, merging of cells, and partition of cells, inserting and deleting a row in a table in MS word document.		
<b>9</b>	Apply spelling checker, grammar mistakes, thesaurus in a document.		
<b>10</b>	Create a Boucher using templates, page setup and print preview, and then print that document.		
	<b>PRACTICING MS EXCEL</b>		
<b>11</b>	Working on spread sheet like adding, deleting, merging cells, layout and style.		
<b>12</b>	Create a table and perform operation using predefined function on it.		
<b>13</b>	In MS Excel procedure to switching between different spread sheets and workbook.		
<b>14</b>	Create a spread sheet and print selected as well as full workbook.		

15	Create a spread sheet with LOOKUP/VLOOKUP features.	
16	Create different charts in excel and implement formulas (automatic and use defined).	
<b>PRACTICING MS POWERPOINT</b>		
17	Create a Power Point presentation using slide template.	
18	Create a Power Point presentation using animation.	
19	Create a Power Point presentation using transition	
20	Create a Power Point Presentation with Adding movie and sound.	
21	Create a Power Point Presentation with Adding tables and chart etc.	
22	Changing slide colour scheme in presentation.	
23	Viewing the presentation using slide navigator.	
24	Create, Save, Run and Print the Power Point Presentation.	
25	Create a database table using predefined template.	
26	Create a database form using form wizard.	
27	Create and share files/folders in Google drive	
28	Create and share Google docs.	
29	Create and share Google sheets.	
30	Create and share Google Forms. And create and share Google slides.	

#### **Course Outcomes**

**CO1: Identify and explain** the functions of basic computer hardware, operating systems, and installation procedures. **(K2)**

**CO2: Illustrate** file and folder management operations, antivirus usage, and document scanning and printing techniques. **(K3)**

**CO3: Apply** basic internet operations such as browsing, downloading, and using email with attachments. **(K3)**

**CO4: Use** MS Word and Excel/Open Office tools to create, format, analyze, and manipulate professional documents and spreadsheets. **(K3)**

**CO5: Create** multimedia presentations and collaborate using Google Docs, Sheets, Slides, and Drive. **(K3)**

#### **Text Books:**

3. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
4. Information Technology for Management by Henery Lucas, Tata McGraw Hills, New Delhi

#### **Reference Books:**

3. Fundamentals of Information Technology by Vipin Arora, Eagle Parkashan, Jalandhar
4. Computer Fundamentals by P.K Sinha; BPB Publication, New Delhi

**Assessment method:** (Continuous Internal Assessment = 60%, Final Examination = 40%)