ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INDUSTRIAL IoT

SEMESTER I

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Minimum Passing Marks	No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1.	BSC	25II101T	Applied Physics	2	-	-	2	10	10	30	50	23	1.5
2.	BSC	25II101P	Applied Physics Lab	-	-	2	1	-	25	25	50	25	-
3.	BSC	25II102T	Linear Algebra & Calculus	3	-	-	3	20	20	60	100	45	3
4.	BSC	25II102P	Linear Algebra & Calculus Lab	-	-	2	1	-	25	25	50	25	
5.	ESC	25II103T	C Programming	3	-	-	3	20	20	60	100	45	3
6.	ESC	25II103P	C Programming Lab	-	-	2	1	-	25	25	50	25	-
7.	ESC	25II104T	Circuits and Networks	2	-	-	2	10	10	30	50	23	1.5
8.	PCC	25II105T	Electronics Foundations for IoT	2	-	-	2	10	10	30	50	23	1.5
9.	AEC	25II106P	Business Communication Skills I Lab	-	-	2	1	-	25	25	50	25	-
10.	SEC	25II207T	Design Thinking#	2	-	-	2	10	10	30	50	23	1.5
11.	CC	25II108T	Co-curricular Courses - I	2	-	-	2	10	10	30	50	23	1.5
			Total	**16**	**-**	**8**	**20**	**90**	**190**	**370**	**650**	**305**	

 # - Course is to be taken online through NPTEL

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
25II101T	Applied Physics	2	--	--	2	10	10	30	50

Course Objectives	Course Outcomes
This course is intended 1. To understand the basic laws of physics and types of materials and their application in engineering and technology. 2. To develop scientific temper and analytical capability.	Students will be able to **1.** Explain the fundamental concepts of crystal structure, unit cells, Miller indices, and apply Bragg's law to analyze X-ray diffraction in crystalline solids. **2.** Classify different types of magnetic materials and analyze their properties (diamagnetic, paramagnetic, ferromagnetic) along with their practical applications. **3.** Illustrate the band theory of solids, differentiate between conductors, insulators, and semiconductors, and calculate Fermi energy for given systems. **4.** Distinguish between intrinsic and extrinsic semiconductors and evaluate the working principle and applications of p–n junction diodes in electronic devices.

Unit I CRYSTAL STRUCTURE	**[10 Hrs]**
Space lattice, Crystal structure, Unit cell, Types of unit cell, Characteristics of SC, BCC and FCC unit cell, Miller Indices, Interplanar distance and its derivation, Diffraction of X-rays - Braggs' Law and its applications.	
Unit II MAGNETIC MATERIALS	**[10 Hrs]**
Terms and definitions, Types of magnetic materials, characteristics of Diamagnetic, Paramagnetic and Ferromagnetic Materials, Applications of soft and hard magnetic materials.	
Unit III SEMICONDUCTORS	**[10 Hrs]**
Free electron Theory (qualitative idea) and its features; Idea of band formation in solids, Classification of solids: Metal, Insulator, Semiconductor; Fermi Energy, Types - Intrinsic and Extrinsic Semiconductors, Application of Extrinsic Semiconductors - p-n junction diode	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Fundamentals of Physics	David Halliday, Robert Resnick and Jerle Walker	8th extended	John-Wiley India
2	Engineering Physics	M. N. Avadhanulu	Latest edition	S. Chand & Co.

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Solid State Physics	Charles Kittel	Eighth edition	John Wiley & Sons, Inc
2	Solid State Physics	R.L. Singhal	Eighth edition	Kedarnath Ramnath

Online Resources

1	https://www.britannica.com/science/semiconductor#ref233890
2	https://www.geeksforgeeks.org/semiconductors/
3	https://www.sciencedirect.com/topics/chemistry/magnetic-material
4	https://www.livescience.com/33816-quantum-mechanics-explanation.html

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25II101P	Applied Physics Lab	--	--	2	1	25	25	50

Course Objectives	Course Outcomes
This course is intended 1. To understand the basic laws of physics and types of materials and their application in engineering and technology. 2. To develop scientific temper and analytical capability.	Students will be able to 1. Illustrate principles/ laws by selecting and using proper measuring instruments, interpret result and draw conclusions. 2. Find various parameters using various properties of light. 3. Demonstrate the concept and working of Semiconductor devices.

Expt. No.	Title of the experiment
1	Study of semiconductor diodes
2	Study of Phenomenon of Diffraction
3	Study of Interference
4	Study of Birefringence
5	Guoy's Balance Method a) Determination of Magnetic Susceptibility of different magnetic materials. b) Identification of different types of Magnetic Materials
6	Study of Planck's Constant by means of LED
7	Determination of Curie Temperature of Ferromagnetic Material.
8	Study of Transistors.
9	Study of Hall Effect.
10	Experiment on 'Quantum Eraser'.
11	Demonstration of phenomena of Optics using Laser.

Text Books

S.N	Title	Authors	Edition	Publisher
1	Fundamentals of Physics	David Halliday, Robert Resnick and Jerle Walker	8e extended	John-Wiley India
2	A Textbook of Engineering Physics	Dr. M. N. Avadhanulu, Dr. P. G. Kshirsagar	Latest edition	S. Chand Publication.

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Solid State Physics	Charles Kittel	Eighth edition	John Wiley & Sons, Inc
2	Solid State Physics	R.L. Singhal	Eighth edition	Kedarnath Ramnath

Online Resources

1	https://www.britannica.com/science/semiconductor#ref233890
2	https://www.geeksforgeeks.org/semiconductors/
3	https://www.sciencedirect.com/topics/chemistry/magnetic-material

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
25II102T	Linear Algebra & Calculus	3	---	1	4	20	20	60	100

Course Objectives	Course Outcomes
This course is intended to 1. Develop students' conceptual understanding and computational skills in Matrix Algebra and Differential Equations for solving mathematical problems. 2. Enable learners to apply Multivariate and Vector Calculus for analyzing functions of several variables and modeling physical phenomena.	**Students will be able to** 1. Apply matrix concepts to solve and analyze linear systems. 2. Analyze and solve engineering problems involving eigenvalues, eigenvectors, and functions of matrices. 3. Solve multivariate calculus problems involving partial derivatives, Jacobians, and optimization. 4. Apply first order and higher order differential equations to solve problems in engineering. 5. Evaluate vector calculus operations and their physical applications.

Unit I	**[9Hrs]**
Matrix Algebra : Introduction to matrices, , Rank of a matrix, Consistency of system of linear equations, Linear and orthogonal transformations, Linear dependence of vectors.	
Unit II	**[9Hrs]**
Matrices: Characteristics equation, Cayley- Hamilton Theorem**,** Eigen values and Eigen vectors, Reduction to diagonal form, Reduction of quadratic form to canonical form by orthogonal transformation, Sylvester's theorem.	
Unit III	**[9Hrs]**
Multivariate Calculus: Functions of several variables and their partial derivatives, Chain rule and total differential coefficient, Jacobians and its properties, Maxima –Minima of functions of two variables, Lagrange's method of undetermined multipliers.	
Unit IV	**[9Hrs]**
Differential Equations: First order and first degree differential equations: Linear, Higher order differential equations with constant coefficients, Method of variation of parameters, Cauchy's homogeneous linear equation, Applications of differential equations.	
Unit V	**[9Hrs]**
Vector Calculus: Vector differentiation, Gradient, Directional derivatives, Divergence and Curl with their physical interpretation Solenoidal and Irrotational motions, Scalar potential, Line integral & Work done.	

Text Books

S.N	Title	Authors	Edition	Publisher
1	Higher Engineering Mathematics	B. S. Grewal	38th	Khanna Publishers, New Delhi.
2	Higher Engineering Mathematics	H. K. Das & Er. Rajnish Verma	1st	S. Chand & CO. Pvt. Ltd., New Delhi

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Higher Engineering Mathematics	B.V. Ramana,	11th reprint, 2010.	Tata McGraw Hill New Delhi
2	A Text Book of Engineering Mathematics	Peter O' Neil	8th	Thomson Asia Pvt. Ltd., Singapore.

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FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25II102P	Linear Algebra & Calculus Lab	--	--	2	1	25	25	50

Course Objectives	Course Outcomes
This Course is intended to: 1. To develop students' computational proficiency in solving problems related to linear algebra, calculus, and differential equations using SageMath with an emphasis on symbolic computation and numerical methods. 2. To enable students to apply SageMath for solving and visualizing problems in vector calculus through effective use of graphical and analytical tools.	**Students will be able to:** 1. Apply fundamental matrix operations and solve systems of linear equations using SageMath. 2. Apply concepts of linear algebra to compute eigenvalues and eigenvectors of matrices using SageMath. 3. Evaluate partial derivatives of multivariable functions and solve first and higher-order ordinary differential equations using SageMath. 4. Analyze and visualize vector calculus operations including gradient, divergence, curl, and evaluate line and surface integrals using SageMath.

List of Experiments:-

Experiment No.	List of Experiment
1	To Implement basic matrix operations using SageMath's symbolic computation tools.
2	To check the consistency of a system of linear equations using augmented matrices and SageMath.
3	To solve systems of linear equations using various within the SageMath environment.
4	To determine eigenvalues and eigenvectors of matrices using built-in SageMath functions.
5	To implement and validate the Cayley-Hamilton Theorem with the aid of SageMath.
6	To compute partial derivatives of various orders for multivariable functions using SageMath.
7	To solve first-order and higher-order differential using SageMath's differential equation solvers.
8	To find maxima and minima of functions of two variables using partial derivatives and the second derivative test implemented in SageMath.
9	To compute and visualize vector differential operations using SageMath.
10	To compute vector integrals in SageMath.

Text Books

S.N	Title	Authors	Edition	Publisher
1	Computational Mathematics with SageMath	Paul Zimmermann	1st	SIAM Publications Library.
2	Basics of SageMath : Mathematics(Practicals)	Varun Kumar	1st	Amazon KDP

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Mathematics-SageMath Software System	Indrajeet Varhadpande & Dr. Kirti Sahu	1st	Himalaya Publication
2	Applied Mathematics Using SageMath	Dr. Kirti Sahu & Dr. Sajid Anwar	1st	Himalaya Publication

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation			
						MSE	CA	ESE	Total
25II103T	C Programming	3	3	-	3	20	20	60	100

Course Objectives	Course Outcomes
1. Understand the basic structure and syntax of the C programming language. 2. Develop problem-solving skills using C programming constructs. 3. Implement programs using arrays, functions, pointers, and structures. 4. Understand file handling in C for input and output operations.	1. Recall and explain the fundamental concepts of C programming. 2. Apply control structures effectively to solve programming problems. 3. Develop modular programs using functions, including recursive solutions. 4. Implement operations on arrays and strings in C. Use pointers for dynamic memory management and manipulate data structures. 5. Define and utilize structures and unions for efficient data handling. Perform file input/output operations proficiently.

Unit I Introduction to C Programming **[8 Hrs]**

History and Features of C, Structure of a C Program, Compilation and Execution Process, Basic Syntax and Semantics, Variables, Data Types, and Constants, Input and Output Operations

Unit II Control Structures **[8 Hrs]**

Decision Making: if, if-else, nested if-else, switch-case, Looping: for, while, do-while, Nested Loops, Break and Continue Statements, goto Statement

Unit III Functions **[9 Hrs]**

Function Definition and Declaration, Function Prototypes, Parameter Passing: Call by Value and Call by Reference, Recursion, Storage Classes: auto, extern, static, register

Unit IV Arrays, Strings and Pointers **[10 Hrs]**

One-dimensional Arrays, Multi-dimensional Arrays, Array Initialization, Searching and sorting, String Handling: String Functions and Operations, Array of Strings, Introduction to Pointers, Pointer Arithmetic, Dynamic Memory Allocation: malloc, calloc, realloc, free

Unit V **[10 Hrs]**

a. Structures and Unions

Defining and Declaring Structures, Accessing Structure Members, Unions and Difference between Structures and Unions

b. File Handling

Introduction to File Handling, File Operations: fopen, fclose, fprintf, fscanf, fputc, fgetc, fwrite, fread, File Modes, Reading and Writing Files, Command Line Arguments

Books and References

S.No.	Title	Authors	Edition	Publisher
1.	Programming In Ansi C	E. Balagurusamy	5th	Tata McGraw - Hill Education
2.	The C programming Language	Brian W. Kernighan and Dennis M. Ritchie	2nd	Prentice−Hall
3.	Let Us C	Yashavant Kanetkar	5th	Bpb

FIRST SEMESTER

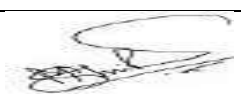
Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25II103P	C Programming Lab	-	-	2	1	25	25	50

Course Objectives	Course Outcomes
To develop problem-solving skills by applying programming techniques. To impart knowledge on using arrays and strings for data manipulation. To understand the use of structures for organizing complex data. To learn how to handle files for data storage and manipulation.	• Write basic C programs to perform simple tasks such as printing output, performing arithmetic operations, and calculating simple interest. • Develop programs using loops (for, while, do-while) to handle repetitive tasks efficiently. • Create and utilize user-defined functions to promote code reusability and modularity. • Perform searching and sorting operations on arrays. • Develop programs to copy contents from one file to another, demonstrating proficiency in file handling.

Expt. No.	Title of the experiment
1	Basic Programs: Hello World, Arithmetic Operations, Simple Interest Calculation
2	Control Structures: Programs using if-else
3	Control Structures: switch-case
4	Control Structures: loops
5	Functions: Programs on user-defined functions, recursive functions
6	Arrays and Strings: Programs on searching, sorting, string manipulation
7	Pointers: Pointer arithmetic, arrays and pointers, dynamic memory allocation
8	Structures: Defining and using structures, array of structures, structures and functions
9	File Handling: File read/write operations, copying contents from one file to another

Books and References

S.No.	Title	Authors	Edition	Publisher
1.	Programming In Ansi C	E. Balagurusamy	5th	Tata McGraw - Hill Education
2.	The C programming Language	Brian W. Kernighan and Dennis M. Ritchie	2nd	Prentice−Hall
3.	Let Us C	Yashavant Kanetkar	5th	Bpb

		July 2025	NEP 3.0	Applicable for 2025-26
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FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits		Evaluation		
						MSE	CA	ESE	Total
25II104T	CIRCUITS AND NETWORKS	2	---	---	2	10	10	30	50

Course Objectives	Course Outcomes
To introduce the fundamental concepts of circuit elements, sources, and the application of Kirchhoff's laws in analyzing electrical circuits. To develop the ability to apply systematic techniques such as mesh analysis, nodal analysis, and source transformations for circuit simplification and solution. To familiarize students with key network theorems and transformations for efficient analysis of electrical networks. To build a strong foundation in alternating current (AC) analysis using phasors, impedance, and phasor diagrams for series, parallel, and compound circuits.	Explain the fundamental circuit elements, sources, and Kirchhoff's laws, and analyze series and parallel circuits using voltage/current division, mesh and nodal methods, including supermesh and supernode techniques. Apply network theorems (Superposition, Thevenin, Norton, Millman, Reciprocity, Compensation, Tellegen, and Maximum Power Transfer) for simplification and analysis of electrical networks. Evaluate the behavior of AC circuits (resistive, inductive, capacitive, and combinations) using phasors, impedance, and phasor diagrams

Unit I: CIRCUIT ELEMENTS AND KIRCHHOFF'S LAWS	**[11 Hrs]**
Voltage, Current, Power and Energy, The Circuit, Resistance Parameter, Inductance Parameter, Capacitance Parameter, Energy Sources, Kirchhoff's Voltage Law, Voltage Division, Power in a Series Circuit, Kirchhoff's Current Law, Parallel Resistance, Current Division, Power in a Parallel Circuit, Mesh Analysis, Mesh Equations by Inspection Method, Supermesh Analysis, Nodal Analysis, Nodal Equations by Inspection Method, Supernode Analysis, Source Transformation Technique	
Unit II: USEFUL THEOREMS IN CIRCUIT ANALYSIS	**[10 Hrs]**
Star-Delta Transformation, Superposition Theorem, Thevenin's Theorem, Norton's Theorem, Reciprocity Theorem, Compensation Theorem, Maximum Power Transfer Theorem, Duals and Duality, Tellegen's Theorem, Millman's Theorem	
Unit III: ALTERNATING CURRENTS, VOLTAGES AND COMPLEX IMPEDANCE	**[9 Hrs]**
The Sine Wave, Angular Relation of a Sine Wave, The Sine Wave Equation, Voltage and Current Values of a Sine Wave, Phase Relation in a Pure Resistor, Phase Relation in a Pure Inductor, Phase Relation in a Pure Capacitor, Impedance Diagram, Phasor Diagram, Series Circuits, Parallel Circuits, Compound Circuits	

TEXT BOOKS

S. No.	Title	Authors	Edition	Publisher
1.	Circuits and Networks	A. Sudhakar, Shyammohan S. Palli	V	McGraw Hill Education (India) Private Limited
2.	Circuit Theory	Abhijit Chakrabarti		Dhanpat Rai & Company Publications

REFERENCE BOOKS

S. No.	Title	Authors	Edition	Publisher
1.	Foundations of Electronics	J.R. Cogdell	---	Pearson Education
2.	Network Analysis	M.E. Van Valkenburg	---	Prentice Hall of India

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FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits		Evaluation		
						MSE	CA	ESE	Total
25II105T	Electronics Foundations for IoT	2	-	-	2	10	10	30	50

Course Objectives	Course Outcomes
This course is intended to **Develop** foundational knowledge of semiconductor devices and their application in electronic circuits. ● **Design and implement** analog circuits using operational amplifiers for signal processing and conversion. ● **Apply** basic electronic techniques to acquire, condition, and manipulate signals from sensors and actuators.	Student will be able to ● Analyze and apply diodes, BJTs, and FETs in electronic circuits ● Design and implement op-amp circuits for analog signal processing and conversion ● Apply basic electronic techniques to process and manipulate signals from sensors and actuators

Unit I SEMICONDUCTOR DEVICES **[12 Hrs]**

PN Junction diode operation- forward bias and reverse bias, Volt-Ampere characteristics of p-n diode, Temperature dependence of VI characteristics, Transition and Diffusion capacitances, Breakdown Mechanisms in Semi-Conductor diodes, Rectifiers: half wave and full wave, Bridge Rectifier, BJT - Operation, configuration and Characteristics, Introduction and characteristics of FET

Unit III INTRODUCTION TO OP-AMP **[08 Hrs]**

Introduction to Operational Amplifiers, A/D and D/A conversion, Inverting and Non-inverting amplifier, Instrumentation amplifiers, Summing, differential, integrator, and differentiator circuits

UNIT III **[10 Hrs]**

Signals, Sensors, Actuators, and Data Conversion, Basics of Signals: analog vs. digital, amplitude, frequency, noise, Sensors: temperature, light, humidity, gas; analog outputs, Actuators: LEDs, buzzers, relays; voltage/current requirements, Signal conditioning for sensors: buffering, amplification, filtering

Text Books

S.N	Title	Authors	Edition	Publisher
1.	Electronic Devices and Circuits	Salivahanan, N. Suresh Kumar	4 th Edition	Mc-Graw Hill
2.	Op-Amps and Linear Integrated Circuits	Ramakant Gaikwad	4 th Edition	Pearson
3.	Electronic Devices and Circuits	Varsha Agrawal, Anil K.. Maini	2nd Edition	Wiley India
4.	Applied Electronics	R. S. Sedha	3rd Edition	S Chand

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Electric Circuits & Network	K. S. Suresh Kumar,	First Edition	Pearson Education
2	Microelectronics: Circuit Analysis and Design	Donald A. Neamen	4th Edition	McGraw Hill Education
3	Design with Operational Amplifiers and and Analog Integrated Circuits	Sergio Franco	3rd Edition	McGraw Hill Education
4	Operational Amplifiers and Linear ICs	David Bell	3rd Edition	Oxford University Press

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25II106P	Business Communication Skills I Lab	-	-	2	1	25	25	50

Course Objectives	Course Outcomes
To empower students to develop a career-oriented mindset while harnessing the power of LSRW skills.	**Students will be able to:** 1. apply verbal and non-verbal skills to confidently and effectively deliver presentations. 2. prepare themselves for overall language ability through listening and reading tasks. 3. demonstrate formal writing skills. 4. draft impactful Resumes and Cover Letters. 5. prepare themselves for Personal Interviews.

Expt. No.	Title of the experiment
1	Presentation Skills
2	Poster Making (Product/ Event)
3	Reading Comprehension for Competitive Exams.
4	Writing Skills for Academic Purposes.
5	Listening Skills I
6	Business Correspondence I
7	Resume Writing and Cover Letter
8	Mock Interviews

Reference Books:

S. N	Title	Authors	Edition	Publisher
1	Communication Skills for Engineers	C. Muralikrishna & SunitaMIshra	2nd Edition, 2011	Pearson India Education Services
2	Communication Skills	Dr. L .Bisen, Dr. B. Agrawal & Dr. N. T. Kalyani	1st Edition, 2021	Himalaya Publishing House
3	Barron's IELTS Superpack	Lin Lougheed	2012	Barrons Educational Series

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B.Tech. Scheme of Examination & Syllabus 2025-26

INDUSTRIAL IoT

FIRST SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
						CA	ESE	Total
25II207T	Design Thinking	2	-	-	2	20	30	50

Course Objectives	Course Outcomes
1. Learn design thinking concepts and principles 2. Use design thinking methods in every stage of the problem 3. Learn the different phases of design thinking 4. Apply various methods in design thinking to different problems	1. Define key concepts of design thinking 2. Practice design thinking in all stages of problem solving 3. Apply design thinking approach to real world problems

Unit I **[10 Hr**

INTRODUCTION: Why Design? - Four Questions, Ten Tools - Principles of Design Thinking - The process of Design Thinking - How to plan a Design Thinking project.
UNDERSTAND, OBSERVE AND DEFINE THE PROBLEM: Search field determination - Problem clarification - Understanding of th problem – Problem analysis - Reformulation of the problem - Observation Phase - Empathetic design - Tips for observing - Methods fo Empathetic Design - Point-of-View Phase - Characterization of the target group - Description of customer needs.

Unit II **[10 H**

IDEATION AND PROTOTYPING: Ideate Phase - The creative process and creative principles - Creativity techniques - Evaluation of ideas - Prototype Phase - Lean Startup Method for Prototype Development - Visualization and presentation techniques.

Unit III **[10 H**

TESTING AND IMPLEMENTATION: Test Phase - Tips for interviews - Tips for surveys - Kano Model - Desirability Testing - How conduct workshops - Requirements for the space - Material requirements - Agility for Design Thinking.
FUTURE: Design Thinking meets the corporation – The New Social Contract – Design Activism – Designing tomorrow.

Text Books

S.N	Title	Authors	Edition	Publisher
1.	Handbook of Design Thinking - Tips & Tools for how to design thinking	Christian Mueller-Roterberg	2021	Independently Published
2.	Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation	Tim Brown	2019	HarperCollins

Reference Books

S.N	Title	Authors	Edition	Publisher
1.	Design Thinking for Strategic Innovation	Idris Mootee		Wiley

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