Course Abstract & Detailed Syllabus

4-Year UG Programme – Furniture & Interior Design (Major)

4-Year Bachelor of Design with Furniture & Interior Major

(As per UGC FYUP 2022 / NEP Framework)

Semester-I		**Total Credits: 23**							
Course Code	**Course Name**	**Basic area(s) to be covered**	**Nature of Course**	**Course Type**	**Credit**	**Full Marks**	**Int. Assessment**	**End Sem**	**Hrs/ Week**
	Tagore Studies		CVAC	Theory	3	75	15	60	3
	English Language-1		AECC	Theory	2	50	10	40	2
MJFID01	Design Basics	Gr-A: Elements of Design: Line, Form, Shape, Space, Colour and Texture	Major	Practical	2	50	10	40	4
		Gr-B: Principles of Design: Elements of Composition, Gestalt Law, Golden rectal/spiral,		Practical	2	50	10	40	4
MJFID02	Materials & Processes-I	Gr-A: Wood, Cane & Bamboo	Major	Theory	2	50	10	40	2
		Gr-B: Tools, Joineries & Hardware: Use and operation of manual hand tools, portable Tools; Basic Joineries & Hardware of Solid Wood Furniture		Theory	2	50	10	40	2
MNFID01	Furniture Design-I (Wood) [For Inter-disciplines]	Timbers & allied materials and their properties & defects; commercially available shape and size of timbers; Sheet layout; freehand sketching, concept of engineering drawing, dimensioning system and cost estimation of product; Mix-media application in furniture design, Introduction to Turning and their application in product making.	Minor	Practical	4	100	20	80	8
MDFID01	Freehand Drawing	Line drawing; basic shapes -- geometric & organic; object & nature drawing; perspective drawing; outdoor study; human & animal figure study	Multi	Practical	3	75	15	60	6
SECC01	Applied Science	Fundamentals of applied Physics, Chemistry & Mathematics	SEC	Theory	3	75	15	60	3
				Total	**23**	**575**	**115**	**460**	**34**
	NHEQF Level		**4.5**						
	NCrF Level		**4.5**						
	Award / Exit Option		**NA**						

Course Abstract & Syllabus

Course Name	**Design Basics**
Course Code	MJFID01
Nature of Course	Major [Theory]
Semester	I
Credits	4 (2+2)

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
0	0	4	4	4

GROUP-A: ELEMENTS OF DESIGN

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
0	0	2	2	2

Course Relevance:

The elements of design are the basic vocabulary of any design. These are the fundamental elements of any visual design, which include line, form, shape, colour, space, value, and texture. Designers use these elements to create an image that can create images/concepts for a certain mood or create a number of feelings.

Course Objectives:

- Foundation Building: Basic design provides design students with a strong understanding of fundamental elements of design.
- Creativity and Innovation: It enhance creativity and innovation by think critically and solve design problems, which helps the students to come up with fresh ideas.
- Visual Communication: Basic design skills are crucial for effective visual communication. Students will learn how to convey message, emotions and information through visual means.
- Problem Solving: To develop students' ability to solve design challenges by encouraging creative and critical thinking.
- Aesthetical Sensibility: Basic design helps students to develop a refined aesthetic sensibility. They learn how to make informed decisions about colour palette, typography and layout, which are essential for creating visually appealing and impactful designs.
- Cultural Context: Basic design helps students understand the evolution of design and how it is shaped by different cultural aspects and societal changes.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have a strong understanding of the fundamental elements of design
- Learn how to convey message, emotions and information through visual means
- Develop among themselves the ability to solve design challenges by encouraging creative and critical thinking
- Learn how to make informed decisions about colour palette, typography and layout, which are essential for creating visually appealing and impactful designs

Course Contents:

- Differences and similarities between Craft, Art and Design. Design and its relationship to Art, Craft and Technology.
- Idea of Design, The evolution of Design as a discipline and its relationship to the environment. The discoveries and inventions that have changed the world.
- Design and Society, Design and designers how the made a difference.
- Introduction to design and the elements of design which include line, form, shape, colour, space, value, and texture.
- Theory and Hands-on-experiments on basic design

- Concept Development through the core elements of design.

Module-1: Introduction to Art, Craft and Design

- Differences and similarities between Craft, Art and Design
- Awareness of Design
- Design and its relationship to Art, Craft and Technology.

Module-2: Introduction to Elements of design

- Presentation on the Elements of design along with the example and different application in design.

Module-3: Introduce Assignments

- Assignments on each of element's application in Nature.
- Assignments on each of element's application in Composition.
- Assignments on each of element's application in Design.

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion
- Hands-on training or Practice sessions

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments/Projects, Internal Tests, Viva-voce, Presentation, etc.

GROUP-B: PRINCIPLES OF DESIGN

Contact Hours per Week				Credits
L	T	P	Total	
0	0	2	2	2

Course Objectives:

- This course will provide moral confidence, principles and responsibilities required in design field.
- The principles of design are the basic rules for a designer, which the designer must follow to create an effective and smart composition.
- Student should know the important principles of design, and how to use Emphasis, Balance and Alignment, Contrast, Repetition, Proportion, Movement etc. in their design.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have a strong understanding of the basic principles of design
- Learn how to apply basic principles/rules of design to create an effective and smart composition
- Develop among themselves the ability to solve design challenges by encouraging creative and critical thinking

Course Contents:

- Identify and distinguish how the principles of design are used to visually unite using the elements of design
- Distinguish between representational (realistic), abstract, and nonrepresentational (or non-objective) imagery

Module-1: Introduction to Principles of Design

- Chronological sequence of the perception of harmony, rhythm, balance, contrast and movement
- Introduction to the fundamentals of design in 2D
- Assignments on each of the Principle's application in Composition.

Module-2: Introduction to Laws of Form Perception

- Laws of form perception and organization
- Theory on Gestalt's Law
- Using different media (i.e., photography, sketching, etc.) for idea generation.

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion
- Hands-on training or Practice sessions

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments/Projects, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- The India Report 1958 - NID 1997, By Charles and Ray Eames.
- Design The Indian Context, By H Kumar Vyas.
- Gail Greet Hannah, Elements of Design, Princeton Architectural Press, 2002.
- Lauer, David; Design Basics, Wadsworth Publishing, 1999.
- W. Wong; Principles of Two-Dimensional Design, John Wiley and Sons, 1972.
- J. Bowers; Introduction to Two---Dimensional Design: Understanding Form and function, John Wiley & Sons, 1999.
- L. Hotzschue; Understanding Colour, VNR, 1995.
- Itten, Johannes; The Art of Color: The Subjective Experience and Objective Rationale of Color, Wiley Publications, 1997.
- Proctor, R.M.; The principles of pattern, Dover Publications, 1990.
- Elam, Kimberly; Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001.
- William Neill, Pat Murphy; By Nature's Design an Exploratorium Book, Chronicle Books, 1993.
- Introduction to Design, By Gunther R. Kress, Theo van Leeuwen.
- Understanding by Design, By Grant P. Wiggins, Jay McTighe.
- Design knowing and learning, By Charles M. Eastman, W. Michael McCracken, Wendy C.
- Design and Environment (An Introductory Manual) By H K Vyas, NID 1992.
- Design Concerns (Volume I), M P Ranjan, Sudhanva Deshpande & R K Banerjee.

Course Abstract & Syllabus

Course Name	**Materials & Processes-I**
Course Code	MJFID02
Nature of Course	Major [Theory]
Semester	I
Credits	4 (2+2)

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
4	0	0	4	4

GROUP-A: WOOD, CANE & BAMBOO

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
2	0	0	2	2

Course Relevance:

- Being the basic raw materials for designing/manufacturing any furniture structure. Wood plays the most pivotal role in furniture design.
- Cane and Bamboo offer a wide range of design possibilities. It ranges from traditional to contemporary.
- Further, in an era of increasing environmental awareness, focusing on renewable and eco-friendly materials like wood, cane, and bamboo is highly relevant.

Course Objectives:

- To impart necessary technical knowledge, information & understanding on Wood, its growth, structure, function, different species, availability, their properties, limitation and use. Student would also learn about some indigenous traditional materials like cane, bamboo and grass their properties and limitations.
- To provide the students the fundamentals of manufacturing techniques, so that students can easily select the right type materials to design a particular end-use.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have a strong understanding of the fundamentals of indigenous materials like wood, cane and bamboo
- Learn the basic relationship between the raw material and the final wood products
- Develop among themselves the research ability and critical thinking for selection of right type of materials to develop desired product

Course Contents:

Module-1: Introduction to Wood as a material

- Introduction of Wood, Its importance as renewal natural resource- Source & Procurement.
- Anatomy of wood (Cell structure, annual rings, heart and sap wood, cambium, etc.)
- Properties of wood: Grain, Texture, rate of growth, specific gravity, moisture content, shrinkage
- Defect of timber- knots, checks, shakes, destructive agencies & preservation.
- Seasoning of timber

Module-2: Introduction to Cane & Bamboo as a material

- Introduction to Bamboo & Cane
- Growth forms
- Morphology
- Introduction to important species
- Joineries

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- Modern Furniture by John F. Pile
- Carpentry and Joinery for the Tropics by F. Hilton
- Carpentry & Joinery by Brian Porter
- Wood Science & Technology by C Thyagrajan
- Wood News: furniture and manufacturing materials & Technologies

GROUP-B: TOOLS, JOINERIES AND HARDWARE

Contact Hours per Week				Credits
L	T	P	Total	
2	0	0	2	2

Course Relevance:

- This course equips the students to understand the basic requirements for a stable furniture construction, fundamentals of joineries and the operation of tools
- Solid wood furniture is often associated with traditional craftsmanship. Learning manual and hand tool techniques keeps this craft alive and allows designers to create quality pieces.

Course Objectives:

- To introduce the students to the interrelationship and interdependence among material and different hand/ power operated tools.
- To introduce the students to the heritage of traditional Indian Joineries and construction
- To inculcate among the students the respect/values of the traditional knowledge systems.
- An introduction to the operation and technique of different hand tools and power tools, fittings and fixtures associated with wood product. Student would learn to use these tools in a systematic way and precaution measures to be followed using these tools and would develop overall understanding of different types of production techniques used in furniture making.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have a basic understanding of tools, joineries and hardware
- Learn how to apply the basic understanding to develop simple wooden products by applying different joints and materials

- Develop among themselves the research skill and critical thinking for the simple joints with tools.

Course Contents:

Module-1: Introduction to joineries

- Terminology used in furniture constructions.
- Classification of Joints- Widening Joints & Lengthening Joints
- Different types of Joints, its importance and application in Furniture Technology; Methods of employing them in furniture construction - their merits & demerits.
- Structural sections, proportion, size and structural composition of frame, partitions, and in furniture construction.

Module-2: Introduction to tools & hardware

- Woodworking hand and machine tools - their applications in different production techniques
- Power operated portable tools and their operation- Classification, mode of operation & use.
- Hardware, Fixture & Fittings and accessories including Nail, screw, Hinges, Lock, knob, Nut & bolts.

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- The Complete Manual of Woodworking by Albert Jackson, David Day, and Simon Jennings.
- The Essential Woodworker by Robert Wearing.
- The Woodworker's Bible: A Complete Guide to Woodworking by Percy Blandford.
- Carpentry & Joinery by Brian Porter

Course Abstract & Syllabus

Course Name	**Furniture Design-I (Wood)**
Course Code	MNFID01
Nature of Course	Minor [Practical]
Semester	I
Credits	4

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
2	0	6	8	4

Course Relevance:

- Wood is a Common primary material and wood Work is an activity where student can easily develop their creative thinking & skills.
- Students should learn all the basic information/knowledge of concerned materials through workshop with the application of hand tools & portable machine tools.

Course Objectives:

- Develop skill and basic understanding of concerned materials & tools through this course and practice detail wood related work as well as furniture Design.
- A student of different trade would get a broader perspective of another trade related to his main trade.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have a basic understanding of the types of wood and joints
- Learn how to develop a wooden product by applying basic joints and tools.
- Learn about the different types of joints and working with simple tools for developing a product
- Learn the preparatory processes before manufacturing a furniture.

Course Contents:

Module-1: Timber used for furniture making and their properties.

- Hard woods: - Mahogany, Walnuts, Oaks, Maple, Cherry, Rosewoods & Teak.
- Soft woods: - Pine, Hemlock, Fir, Spruce, Cedar.
- Discussion on commercial shape and size available in the market.
- Introduction of Drawing board, T-square, Set square etc. to layout the drawing sheets.
- Freehand sketching: - Line, Vertical lines, Horizontal lines, Diagonal lines, curved lines practicing to make freehand sketching.
- Method of dimensioning on the drawing.
- Calculation of a size timber and estimation process of a product.

Module-2: Workshop practice.

- Develop concept drawing.
- Use of different types of hand tools & Portable Machine tools
- Exercise /product making that includes Sawing, planning, Chiseling, Filling etc.;
- Application of Hardware’s with finishing & polishing materials

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.

- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion
- Hands-on training or Practice sessions

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments/Projects, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- Modern Furniture by John F. Pile
- Furniture - World Styles from classical to contemporary- by Judith Miller.
- Furnitecture- Furniture that Transforms Space –by Anna Yudina.
- Furniture- A concise History- by Edward Lucie –Smith.

Course Abstract & Syllabus

Course Name	**Freehand Drawing**
Course Code	MDFID01
Nature of Course	Multi [Practical]
Semester	I
Credits	3

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
0	0	6	6	3

Course Relevance:

- The importance of Visual Learning has tremendous relevance for a product based professional course like B. Des. A designer usually is more dependent on visual mode of communication made through pencil sketches drawn in freehand for communicating his/her ideas.
- This course helps develop a quality of keen observation and experience space in terms of perspective.
- Sharpens the ability to analyze and appreciate the structure that is either visible or hidden.
- Helps understand the basics of drawing in terms of perception and representation of distance, concepts of 3D spaces and forms on 2D surface.
- Helps establish a sense of inter-relatedness of parts in overall proportion.

Course Objectives:

- To introduce Drawing as a visual language for effective design related communication.
- To observe and represent images, ideas, concepts and ability.
- To develop an ability to visualize and articulate one's thinking process.
- To improve coordination of eye and hand.
- To explore pencil as a media.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have visual mode of communication made through freehand pencil sketches for communicating his/her ideas, and also develop a sense of inter-relatedness of parts in overall proportion
- Understand the basics of drawing in terms of perception and representation of distance, concepts of 3D spaces and forms on 2D surface

Course Contents:

Module-1: Basic Exercise

- Movement of fingers, elbows and arms in drawing.
- Different grades of pencil properties and their use
- Different qualities of papers its available dimension its usable nature.
- Representation of lines and textures.
- Freehand plotting, layout and compositions (by different viewfinders).
- Object Drawing using different manmade geometrical forms and objects

Module-2: Nature Drawing

- Analysis and appreciation of natural form through visual reference.
- Capturing of an overall form-character, overall proportions and fine details any natural objects.
- Understanding depth, light and shade.
- Outdoor study

Module-3: Human Figure

- Basic formation human body along with postures and movements.
- Over all human form study with life situation,
- Quick sketching to enhance observation of different postures of body.
- Human body details - understanding of form, relative proportions and details by rendering techniques.

Module-4: Dimensional Solids

- Drawing basic solid (cube/cone/ sphere) and understanding its hidden dimension and structure in perspective along with methodical understanding.
- Perspective Study Simple one point and two-point perspective of interior and exterior spaces.
- Complex perspectives.

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion
- Hands-on training or Practice sessions

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments/Projects, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- Basic Drawing, Deshpande D.L. ed, Bombay, Orient Longman, 1960.
- Drawing in Perspective, Striegel Oliver New York – Sterling Pub. Co.
- T. C. Wang; Pencil Sketching, John Wiley & Sons, 1997.
- Pogany, Willy; The Art of Drawing, Publisher: Madison Books, 1996.

Course Abstract & Syllabus

Course Name	**Applied Science**
Course Code	SECC01
Nature of Course	SEC [Theory]
Semester	I
Credits	3

Contact Hours per Week				**Credits**
L	**T**	**P**	**Total**	
3	0	0	3	3

Course Relevance:

- The importance of this course has tremendous relevance for a product based professional course like B. Des. A designer should have rational thinking and logical aptitude for communicating his/her ideas and transferring ideas for final product development.
- This course helps develop a reasoning and logical aptitude among the students, sharpens the ability to analyze and appreciate different types of raw materials.
- Helps the students understand the basics of drawing in terms of perception and representation of distance, concepts of 3D spaces and forms on 2D surface.
- Helps better understanding of the numerical and geometrical calculations and computations involved in any kind of product design.

Course Objectives:

- To understand some of the principles of applied science as inspirations for design.
- To develop a reasoning and logical aptitude among the students,
- To sharpen the ability to analyze and appreciate different types of raw materials for their optimum usage during product development.
- To develop better understanding of the numerical and geometrical calculations and computations involved in the process of any kind of product design.

Learning Outcomes:

At the end of the course, the learners will be able to:-

- Have basic understanding of the principles of applied science and develop a reasoning and logical aptitude among themselves
- Learn the basic properties and behaviour of different raw materials used for product development
- Develop strong understanding about basic units, measurements, proportion, calculations, computations, etc. involved during the process of any kind of product development
- Develop among themselves the research ability and critical thinking for selection of right type and optimum usage of raw materials during product development

Course Contents:

Module-1: Mathematics

- Fundamental concept of ratio & proportion, and simple numerical examples
- Mensuration: Measurement of area and volume of Cylinder, Pyramid, spheroids, cuboids, and other 2D and 3D spaces, organic forms etc.
- Trigonometry: Review of Pre-Matric knowledge on Trigonometry, Compound angle, Application of Trigonometry to solve practical problems.
- Co-ordinate Geometry: Concept of Polar & Cartesian co-ordinate systems, Area of triangle, quadrant, equation of Circle & Straight line.
- Statistics: Measures of central tendency —– Mean, Median, Mode; Measures of dispersion —– Variance, Standard deviation, and Co-efficient of variation.

Module-2: Physics

- Matter –- different phases and transformation; concept of element, metal, non-metal, compound, mixture, solution, and their common examples.
- Fundamental concept of Gravity, Mass, Volume, Density, Weight.
- Archimedes' Principle; Condition of Floatation; Fundamentals of Buoyancy & Buoyant force, and its applications.
- Basic concept of Stress, Strain, Modulus, Work of Rupture, Elasticity and Plasticity, Moments, Couples, and Centre of Gravity
- Basic theory of Heat & temperature, Light, Colour, & Illumination.

Module-3: Chemistry

- Organic Chemistry —— Catenation, General nature of organic compounds, Difference between organic and inorganic compounds; Synthesis, Isolation and Purification; Elementary classification of organic compounds. Isomerism, Metamerism, Hydrocarbon; Some common organic compounds used in Textiles.
- Polymer Chemistry —— Definition, degree of polymerization, classification; Fiber forming polymers; Common polymeric compounds used day to day life and in Textiles.
- Applied Chemistry (Inorganic):
  - Chemistry of Solution: Type of homogeneous mixture-solution nomenclature-solution properties-Normality-Molarity-Mole Fraction-Colligative properties.
  - Chemical reactions: Balancing chemical equation-The concept of mole-Stoichiometric Calculations-Limiting reactants.
  - Determination of Chemical equivalents: Equivalent of a Metal by Treatment with Acids—Equivalent of a Metal by Conversion to Oxide—Equivalent of a Metal by Displacement—Equivalent of a Metal by Electrolysis.
  - Introduction to Ceramic materials and effect of heat.

Pedagogical Approach or Teaching-Learning Methodology:

- Lecture/ demonstration by the teacher
- Audio-video presentation
- Students will be referred to various books, journals and other media to acquire a better understanding of the subject concerned.
- Student-Centered Approach to improve student motivation, engagement, and learning outcome.
- Participatory learning
- Group learning through Focused Group Discussion

Assessment/Evaluation:

- Continuous Evaluation based on punctuality, sincerity, attendance, assignments.
- Periodic Evaluation through Assignments/Projects, Internal Tests, Viva-voce, Presentation, etc.

Text & Reference Books:

- NCERT Books for Class 10 Maths; https://www.ncrtsolutions.in/2016/08/mathematics-class-10-ncert-book-download.html and https://www.ncrtsolutions.in/2016/11/class-10-math-notes-pdf-free-download.html
- NCERT Science Textbook for Class 10; https://www.ncrtsolutions.in/2016/10/class-10-science-books-pdf.html
- WBCHSE Chemistry (Part 1 & 2); Dr. Rabindranath Maiti, Dr. Debapriya Chakravarty, Dr. Nemai Tewari, Dr. Sabitabrata Roy; Chhaya Prakashani Ltd.
- Ganit Prakash for Class 10; WBBSE; https://wbbsebooks.com/wbchse-and-wbbse-e-text-books-for-pre-primary-to-class-xii/
- Uchcha Madhyamik Padartha Bigyan; Chittaranjan Dasgupta; New Book Syndicate.
- Uchcha Madhyamik Padartha Bidya; Dr. Ajoy Chakraborty; Puthipatra (Calcutta) Pvt. Ltd.
- H. S. Physics; Dr. B. K. Gupta; Oriental Book Co. (P) Ltd.