

PSG INSTITUTE OF TECHNOLOGY AND APPLIED RESEARCH
COIMBATORE – 641 062
(Autonomous Institution Affiliated to Anna University)



2026 Regulations
Scheme of Assessment and Syllabi
(for First and Second Semesters)

For
B.Des. Design

B.Des. Design

Vision

To nurture designers who treat the world as their home and all life as their kin by practicing a craft that balances human joy with the eternal laws of nature, thereby creating shared prosperity for all living beings.

Mission

- Translate the spirit of inherent equality into professional practice.
- Create an intellectually stimulating environment where creativity becomes meaningful service.
- Encourage curiosity, experimentation and critical thinking.
- Develop sustainable and ethical design solutions.
- Empower designers to improve the quality of life for people, communities and the planet.

B.Des. Design
(Minimum No. of credits to be earned: 168)

S. No.	Course Code	Course Title	Hours/Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER I										
THEORY										
1	26MA101	Mathematical Patterns in Nature and Art	3	0	0	3	40	60	100	BS&AE
2	25HS102	தமிழர் மரபு / Heritage of Tamils	1	0	0	1	40	60	100	HUM
3	26HS103	Introduction to Language Skills	3	0	0	3	40	60	100	HUM
4	26DN101	Design History and Material Culture	3	0	0	3	40	60	100	PC
STUDIO										
5	26DN111	Material Studies – Design Studio I	0	0	12	6	60	40	100	PC
6	26DN112	Elements of Design	0	0	6	3	60	40	100	PC
7	26DN113	Thinking through Drawing	0	0	6	3	60	40	100	PC
MANDATORY COURSES										
8	25GEM01	Induction Programme **	-	-	-	Grade	-	-	-	MC
9	26DNM__	Personal Development Elective I	0	0	1	Grade	-	-	-	MC
10	25HSO01/ 25HSO02	Physical Education/ Yoga and Health	0	0	2	Grade	100	-	-	MC
Total 37 periods			10	0	27	22	440	360	700	

S. No.	Course Code	Course Title	Hours/Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER II										
THEORY										
1	25HS201	தமிழரும் தொழில்நுட்பமும் / Tamils and Technology	1	0	0	1	40	60	100	HUM
2	26DN201	Design Anthropology and Creative Process	3	0	0	3	40	60	100	PC
THEORY CUM STUDIO										
3	26DN202	Colour Theory	1	0	4	3	50	50	100	PC
STUDIO										
4	26DN211	Material Studies - Design Studio II	0	0	12	6	60	40	100	PC
5	25DN212	Design of Responsive Devices	0	0	8	4	60	40	100	PC
6	25DN213	Form Studies	0	0	8	4	60	40	100	PC
MANDATORY COURSES										
7	25GEM02	Activity Point Programme I*	-	-	-	Grade	-	-	-	MC
8	26DNM_ _	Personal Development Elective II	0	0	1	Grade	-	-	-	MC
9	25HSO01/ 25HSO02	Physical Education/ Yoga and Health	0	0	2	Grade	100	-	-	MC
Total 40 periods			5	0	35	21	410	290	600	

**As per AICTE Norms

* As per AICTE Norms; Total: 60 hrs.; Grade: Non-credit Course

CAT - Category; BS&AE - Building Sciences & Applied Engineering; HUM - Humanities; PC - Professional Core; MC - Mandatory Course; CA - Continuous Assessment; ESE - End-Semester Examination

L-Lecture; T-Tutorial; P-Practical; S-Studio; C-Credits

S. No.	Course Code	Course Title	Hours /Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER III										
THEORY										
1	26DN301	Applied Ergonomics	3	0	0	3	40	60	100	PC
2	26DN302	Systems Design	3	0	0	3	40	60	100	PC
3	26DN303	Bioinspired Design	3	0	0	3	40	60	100	PC
STUDIO										
4	26DN311	Sculpting	0	0	8	4	60	40	100	PC
5	26DN312	Typography	0	0	8	4	60	40	100	PC
6	25DN313	AI for Designers	0	0	8	4	60	40	100	PC
MANDATORY COURSES										
7	25GEM03	Activity Point Programme II*	-	-	-	Grade	-	-	-	MC
8	26DNM__	Personal Development Elective III	0	0	1	Grade	-	-	-	MC
9	26GEM01	Universal Human Values	-	-	-	Grade	-	-	-	MC
Total 34 periods			9	0	25	21	300	300	600	

S. No.	Course Code	Course Title	Hours / Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER IV										
THEORY										
1	26DN401	Philosophy for Designers	1	0	0	1	40	60	100	PC
2	26DN402	Design for social systems	3	0	0	3	40	60	100	PC
THEORY CUM STUDIO										
3	26DN403	Illustration	1	0	4	3	50	50	100	PC
4	26DN404	Spatial Narratives	1	0	4	3	50	50	100	PC
STUDIO										
5	26DN411	Interaction Design	0	0	6	3	60	40	100	PC
6	26DN412	Mechanics and Machines	0	0	6	3	60	40	100	PC
7	26DN413	Collaborative Project I	0	0	12	6	60	40	100	EEC
MANDATORY COURSES										
8	25GEM04	Activity Point Programme III*	-	-	-	Grade	-	-	-	MC
9	26DNM_ _	Personal Development Elective IV	0	0	1	Grade	-	-	-	MC
Total 39 periods			6	0	33	22	360	340	700	

* As per AICTE Norms; Total: 60 hrs.; Grade: Non-credit Course

CAT – Category; HUM – Humanities; PC – Professional Core; MC – Mandatory Course; CA – Continuous Assessment; ESE – End-Semester Examination; PAE – Professional Ability Enhancement
L-Lecture; T-Tutorial; P-Practical; S-Studio; C-Credits

S. No.	Course Code	Course Title	Hours / Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER V										
THEORY										
1	26DN501	Indian Arts and Crafts	3	0	0	3	40	60	100	PC
2	26DN502	Design Research	3	0	0	3	40	60	100	PC
THEORY CUM STUDIO										
3	26DN503	Sustainable Design	1	0	4	3	50	50	100	PC
4	26DNP__	Professional Elective I	1	0	4	3	50	50	100	PE
5	26DNP__	Professional Elective II	1	0	4	3	50	50	100	PE
STUDIO										
6	25DN511	Packaging and Printing	0	0	6	3	60	40	100	PC
7	26DN512	Digital Sculpting	0	0	10	5	60	40	100	PC
MANDATORY COURSES										
8	25GEM05	Activity Point Programme IV*	-	-	-	Grade	-	-	-	MC
9	26DNM__	Personal Development Elective V	0	0	1	Grade	-	-	-	MC
10	26DNE01	Internship I	-	-	-	3	100	0	100	EEC
Total 38 periods			9	0	29	26	450	350	800	

S. No.	Course Code	Course Title	Hours /Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER VI										
THEORY										
1	26DN601	Design Critique	3	0	0	3	40	60	100	PC
THEORY CUM STUDIO										
2	26DN602	Design for Manufacturing / Assembly (DFM/DFA)	1	0	4	3	50	50	100	PC
3	26DNP__	Professional Elective III	1	0	4	3	50	50	100	PE
4	26DNP__	Professional Elective IV	1	0	4	3	50	50	100	PE
STUDIO										
5	26DN611	Inclusive Design	0	0	6	3	60	40	100	PC
6	26DN612	Collaborative Project II	0	0	10	5	60	40	100	PC
MANDATORY COURSES										
7	25GEM06	Activity Point Programme V*	-	-	-	Grade	-	-	-	MC
8	26DNM__	Personal Development Elective VI	0	0	1	Grade	-	-	-	MC
Total 35 periods			6	0	29	20	310	290	600	

*As per AICTE Norms; Total: 60 hrs.; Grade: Non-credit Course

CAT – Category; HUM – Humanities; PC – Professional Core; MC – Mandatory Course; CA – Continuous Assessment; ESE – End-Semester Examination; PAE – Professional Ability Enhancement; PE- Professional Elective

L-Lecture; T-Tutorial; P-Practical; S-Studio; C-Credits

S. No.	Course Code	Course Title	Hours / Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER VII										
THEORY										
1	26DN701	Innovative Product Design	3	0	0	3	40	60	100	PC
THEORY CUM STUDIO										
2	26DN702	Design Communication and Journalism	1	0	4	3	50	50	100	PC
3	26DN703	Speculative Design	1	0	4	3	50	50	100	PC
4	26DNP__	Professional Elective V	1	0	4	3	50	50	100	PE
5	26DNP__	Professional Elective VI	1	0	4	3	50	50	100	PE
STUDIO										
6	26DN711	Entrepreneurship Project	0	0	12	6	60	40	100	PC
MANDATORY COURSES										
7	26DNE02	Internship II	-	-	-	3	100	0	100	PAE
Total 35 periods			7	0	28	18	400	300	700	

S. No.	Course Code	Course Title	Hours / Week			C	Maximum Marks			CAT
			L	T	P/S		CA	ESE	Total	
SEMESTER VIII										
STUDIO										
1	26DN811	Integrated Project	0	0	24	12	60	40	100	PAE
Total 24 periods			0	0	24	12	60	40	100	

SUMMARY OF CREDIT DISTRIBUTION

B.Des.										
S. No.	Course Category	Credits Per Semester								Total Credits
		I	II	III	IV	V	VI	VII	VIII	
1	HUM	4	1	0	0	0	0	0	0	5
2	BS & AE	3	0	0	0	0	0	0	0	3
3	PC	15	20	21	16	17	14	15	0	118
4	PE	0	0	0	0	6	6	6	0	18
5	PAE	0	0	0	6	3	0	3	12	24
6	MC	-	-	-	-	-	-	-	-	-
TOTAL		22	21	21	22	26	20	24	12	168

* As per AICTE Norms; Total: 60 hrs.; Grade: Non-credit Course

CAT – Category; HUM – Humanities; BS&AE – Building Sciences & Applied Engineering; PC – Professional Core; MC – Mandatory Course; CA – Continuous Assessment; ESE – End-Semester Examination; PAE – Professional Ability Enhancement; PE- Professional Elective
L-Lecture; T-Tutorial; P-Practical; S-Studio; C-Credits

LIST OF PROFESSIONAL ELECTIVE COURSES: VERTICALS

S. No.	Vertical – I (Design for Life)	Vertical – II (Design for Mobility)	Vertical – III (Design for human Well-being)	Vertical – IV (Material and Culture)
1	26DNP01 Life Centered Design	26DNP09 Evolution of Mobility	26DNP017 Design for Human flourishing	26DNP025 Vernacular innovation and Design
2	26DNP02 Human Animal Interaction	26DNP010 Mobility for Children	26DNP018 Design for Play	26DNP026 Circular Material Culture
3	26DNP03 Enrich by Design	26DNP011 Assistive Mobility	26DNP019 Assistive Design	26DNP027 Narrative Objects and Story telling
4	26DNP04 Regenerative systems and Circularity	26DNP012 Vehicle Interiors	26DNP020 Human Robot interaction	26DNP028 Bio-Materials and Emerging technologies
5	26DNP05 Design for Future – II	26DNP013 Strategic Mobility Design	26DNP021 XR Design	26DNP029 Craft, Code and Fabrication
6	26DNP06 Planet Centered Design	26DNP014 Goods Transport design	26DNP022 Design for Mental health	26DNP030 New Materials
7	26DNP07 Life Centered Service Design	26DNP015 Transport Service Design	26DNP023 Gerontological Design	26DNP031 Regenerative Materials
8	26DNP08 Design Project			

LIST OF MANDATORY COURSES

S. No.	Course Code	Course Title
1	25HSO01	Physical Education
2	25HSO02	Yoga and Health

LIST OF PERSONAL DEVELOPMENT ELECTIVE COURSES

S. No.	Course Code	Course Title
1	26DNM01	Ul-oli (உள்ளுளி) – Unearthing and Curiosity
2	26DNM02	Ul-oli (உள்ளுளி) – Deconstruction and Observation
3	26DNM03	Ul-oli (உள்ளுளி) – Mechanics and Mental Models
4	26DNM04	Ul-oli (உள்ளுளி) – Experimentation and Prototyping
5	26DNM05	Ul-oli (உள்ளுளி) – Synthesis and Intersection
6	26DNM06	Ul-oli (உள்ளுளி) – Metacognition and Manifesto

SEMESTER I
26MA101 MATHEMATICAL PATTERNS IN NATURE AND ART

3 0 0 3

FIBONACCI NUMBERS AND GOLDEN GEOMETRY: Sequences and patterns – Recursive sequences – Fibonacci sequence and properties – Lucas numbers – Binet's Formula – Convergence to Golden Ratio – Definition and derivation of Golden Ratio – Golden section – Golden rectangles – Golden spiral – Pentagons and pentagrams – Applications in nature, architecture, fine arts and design. **(9)**

SYMMETRY AND MATHEMATICAL BEAUTY: Isometries of the plane- Reflection, rotation, translation, glide reflection-Bilateral and radial symmetry – Elementary group theory – Crystallography – Symmetry in snowflakes and minerals - Musical rhythm and symmetry **(9)**

FRACTALS AND SELF-SIMILARITY: Introduction to fractals – Euclidean and fractal geometry – Iteration and recursion – Cantor set – Koch curve and snowflake – Sierpinski triangle – Menger sponge – Fractal dimension – Mandelbrot and Julia sets- Natural fractals in coastlines. **(9)**

CHAOS, DYNAMICS AND PATTERNS: Introduction to chaos theory – Determinism and predictability – Butterfly Effect – Logistic map – Population models – Strange attractors – Lorenz attractor – Numerical examples and bifurcation diagrams. **(9)**

MATHEMATICS IN ART, MUSIC AND ARCHITECTURE: Perspective geometry- Tessellations and tilings- Penrose tilings- Mathematical art and M.C. Escher – Harmonic ratios – Mathematics of music and 12-tone scale – Biophilic design – Nature-inspired architecture – Mathematical patterns in modern design. **(9)**

Total L: 45 Periods

TEXTBOOKS:

1. Thomas Koshy, '*Fibonacci and Lucas Numbers with Applications*'. John Wiley & Sons, Inc., New York, 2001.
2. Ron Larson, Laurie Boswell and Lee Stiff, '*Geometry*'. McDougal Littell, Illinois, 2004.
3. Mario Livio, '*The Golden Ratio: The Story of Phi*'. Broadway Books, 2008.
4. Hermann Weyl, '*Symmetry*'. Princeton University Press, 1983.
5. Przemyslaw Prusinkiewicz and Aristid Lindenmayer, '*The Algorithmic Beauty of Plants*'. Springer-Verlag, 1990.
6. Kenneth Falconer, '*Fractals: A Very Short Introduction*'. Oxford University Press, 2013.

REFERENCES:

1. James Gleick, '*Chaos: Making a New Science*'. Penguin Books, 2008.
2. Benoit B. Mandelbrot, '*The Fractal Geometry of Nature*'. W.H. Freeman, 1982.
3. H.S.M. Coxeter, '*Introduction to Geometry*'. Wiley, 1989.
4. Philip Ball, '*Patterns in Nature*'. The University of Chicago Press, Chicago and London, 2016.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Explain the concept of the Fibonacci sequence, golden ratio, symmetry of nature and chaos.	K2
CO2	Apply the techniques of the Fibonacci sequence, golden ratio, symmetry of nature and chaos in arts, music and architecture.	K3
CO3	Analyse the mathematical patterns in arts, music and architecture by employing Fibonacci sequence, golden ratio, symmetry of nature and chaos.	K4
CO4	Apply modern tools to solve design problems in nature and art.	

25HS102 தமிழர் மரபு
(Common to all B.E./B.Tech./ B.Des. Programmes)

1001

மொழி மற்றும் இலக்கியம்: இந்திய மொழிக் குடும்பங்கள் – திராவிட மொழிகள் – தமிழ் ஒரு செம்மொழி – தமிழ் செவ்விலக்கியங்கள் – சங்க இலக்கியத்தின் சமயச்சார் பற்ற தன்மை – சங்க இலக்கியத்தில் பகிர்தல் அறம் – திருக்குறளில் மேலாண்மைக் கருத்துக்கள் – தமிழ்க்காப்பியங்கள், தமிழகத்தில் சமண பௌத்த சமயங்களின் தாக்கம் – பக்தி இலக்கியம், ஆழ்வார்கள் மற்றும் நாயன்மார்கள் – சிற்றிலக்கியங்கள் – தமிழில் நவீன இலக்கியத்தின் வளர்ச்சி – தமிழ் இலக்கிய வளர்ச்சியில் பாரதியார் மற்றும் பாரதிதாசன் ஆகியோரின் பங்களிப்பு. (3)

மரபு – பாறை ஓவியங்கள் முதல் நவீன ஓவியங்கள் வரை – சிற்பக்கலை: நடுகல் முதல் நவீன சிற்பங்கள் வரை – ஐம்பொன் சிலைகள் – பழங்குடியினர் மற்றும் அவர்கள் தயாரிக்கும் கைவினைப் பொருட்கள், பொம்மைகள் – தேர் செய்யும் கலை – சுடுமண் சிற்பங்கள் – நாட்டுப்புறத் தெய்வங்கள் – குமரி முனையில் திருவள்ளுவர் சிலை – இசைக்கருவிகள் – மிருதங்கம், பறை, வீணை, யாழ், நாதஸ்வரம் – தமிழர்களின் சமூக பொருளாதார வாழ்வியல் கோவில்களின் பங்கு. (3)

நாட்டுப்புறக்கலைகள் மற்றும் வீரவிளையாட்டுகள்: தெருக்கூத்து, கரகாட்டம், வில்லுப் பாட்டு, கணியான் கூத்து, ஒயிலாட்டம், தோல்பாவைக் கூத்து, சிலம்பாட்டம், வளரி, புலியாட்டம், தமிழர்களின் விளையாட்டுகள். (3)

தமிழர்களின் திணைக்கோட்பாடுகள்: தமிழகத்தின் தாவரங்களும், விலங்குகளும் – தொல்காப்பியம் மற்றும் சங்க இலக்கியத்தில் அகம் மற்றும் புறக்கோட்பாடுகள் – தமிழர்கள் போற்றிய அறக்கோட்பாடு – சங்க காலத்தில் தமிழகத்தில் எழுத்தறிவும், கல்வியும் – சங்க கால நகரங்களும் துறைமுகங்களும் – சங்க காலத்தில் ஏற்றுமதி மற்றும் இறக்குமதி – கடல் கடந்த நாடுகளில் சோழர்களின் வெற்றி. (3)

இந்திய தேசிய இயக்கம் மற்றும் இந்திய பண்பாட்டிற்குத் தமிழர்களின் பங்களிப்பு: இந்திய விடுதலைப் போரில் தமிழர்களின் பங்கு – இந்தியாவின் பிறப் பகுதிகளில் தமிழ்ப் பண்பாட்டின் தாக்கம் – சுயமரியாதை இயக்கம் – இந்திய மருத்துவத்தில், சித்த மருத்துவத்தின் பங்கு – கல்வெட்டுகள், கையெழுத்துப் படிகள் – தமிழ்ப் புத்தகங்களின் அச்ச வரலாறு. (3)

Total L: 15 Periods

25HS102 HERITAGE OF TAMILS
(Common to all B.E./B. Tech./ B. Des. Programmes)

1001

LANGUAGE AND LITERATURE: Language Families in India - Dravidian Languages – Tamil as a Classical Language - Classical Literature in Tamil – Secular Nature of Sangam Literature – Distributive Justice in Sangam Literature - Management Principles in Thirukural - Tamil Epics and Impact of Buddhism & Jainism in Tamil Land - Bakthi Literature Azhwars and Nayanmars - Forms of minor Poetry - Development of Modern literature in Tamil - Contribution of Bharathiyar and Bharathidhasan. (3)

HERITAGE - ROCK ART PAINTINGS TO MODERN ART – SCULPTURE: Hero stone to modern sculpture - Bronze icons - Tribes and their handicrafts - Art of temple car making - Massive Terracotta sculptures, Village deities, Thiruvalluvar Statue at Kanyakumari, Making of musical instruments - Mridhangam, Parai, Veenai, Yazh and Nadhaswaram - Role of Temples in Social and Economic Life of Tamils. (3)

FOLK AND MARTIAL ARTS: Therukoothu, Karagattam, Villu Pattu, Kaniyan Koothu, Oyillattam, Leather puppetry, Silambattam, Valari, Tiger dance - Sports and Games of Tamils. (3)

THINAI CONCEPT OF TAMILS: Flora and Fauna of Tamils & Aham and Puram Concept from Tholkappiyam and Sangam Literature - Aram Concept of Tamils - Education and Literacy during Sangam Age - Ancient Cities and Ports of Sangam Age - Export and Import during Sangam Age - Overseas Conquest of Cholas. (3)

CONTRIBUTION OF TAMILS TO INDIAN NATIONAL MOVEMENT AND INDIAN CULTURE: Contribution of Tamils to Indian Freedom Struggle - The Cultural Influence of Tamils over the other parts of India – Self-Respect Movement - Role of Siddha Medicine in Indigenous Systems of Medicine – Inscriptions & Manuscripts – Print History of Tamil Books. (3)

Total L: 15 Periods

TEXTBOOKS:

1. கே. கே. பிள்ளை, 'தமிழக வரலாறு - மக்களும் பண்பாடும்'. தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்.
2. முனைவர் இல. சுந்தரம், 'கணினித்தமிழ்'. விகடன் பிரசுரம்
3. சீழடி - வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம், தொல்லியல் துறை வெளியீடு
4. பொருநை - ஆற்றங்கரை நாகரிகம், தொல்லியல் துறை வெளியீடு
5. Dr. K.K. Pillay, 'Social Life of Tamils'. A joint publication of TNTB, ESC and RMRL
6. Dr. S. Singaravelu, 'Social Life of the Tamils – The Classical Period'. International Institute of Tamil Studies.
7. Dr. S.V. Subramanian and Dr. K.D. Thirunavukkarasu, 'Historical Heritage of the Tamils'. International Institute of Tamil Studies
8. Dr. M. Valarmathi, 'The Contributions of the Tamils to Indian Culture'. International Institute of Tamil Studies.
9. Keeladi – Sangam 'City Civilization on the banks of river Vaigai'. Department of Archaeology, Tamilnadu Text Book and Educational Services Corporation, Tamilnadu
10. Dr. K.K. Pillay, Studies in the History of India with Special Reference to Tamilnadu
11. 'Porunai Civilization'. Department of Archaeology, Tamil Nadu Text Book and Educational Services Corporation, Tamilnadu
12. R. Balakrishnan, 'Journey of Civilization Indus to Vaigai'. RMRL, Tamilnadu

REFERENCES:

1. V Priyadharshini, 'தமிழர் மரபு (Heritage of Tamils)'. VK publications, Sivakasi.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Describe the Dravidian language family, outline the features of Tamil classical literature, and explain the development of Tamil art, sculpture, and temple-related traditions in a historical context.	K2
CO2	Demonstrate the cultural relevance of Tamil folk and martial arts, apply the concepts of Sangam landscape classification to social contexts, and relate Tamil contributions to India's freedom struggle, cultural legacy, and Siddha medicine.	K3

26HS103 INTRODUCTION TO LANGUAGE SKILLS**3 0 0 3**

INTRODUCTION TO LANGUAGE AND LINGUISTICS: Communication in humans and animals. Language in humans– Definition, function and hypotheses of evolution. Some concepts of language- phonetics, phonology, morphology, syntax, semantics, pragmatics. **(9)**

ENGLISH - SPEAKING AND LISTENING: Everyday communication and human interaction through language. Speaking and Listening. Simple class exercises. **(9)**

ENGLISH - READING, WRITING, PRESENTING: Reading and Writing. Language comprehension skills through reading and writing. Presenting information and ideas. Simple exercises. **(9)**

LANGUAGE AS EXPRESSION AND COGNITION: Language as expression – poetry, prose, literature, etc., Cognitive function of language. Cognitive role of language in constructing reality, abstracting, projecting the future. Simple exercises. **(9)**

LANGUAGE AS DISCOURSE: Thinking, talking and writing about ideas and situations within a social context and conveying broader meaning and abstraction. Discourse, dialectic. Simple class exercises. **(9)**

Total L: 45 Periods**TEXTBOOKS:**

1. Sharon Heidenreich, '*English for Architects and Civil Engineers*'. Springer Vieweg, 2012.
2. Noam Chomsky, '*Reflections on Language*'. Fontana, 1976.
3. Steven Pinker, '*The Language Instinct: How the Mind Creates Language*'. Harper Perennial Modern Classics, 2007.
4. R. L. Trask and Peter Stockwell, '*Language and Linguistics: The Key Concepts*'. Routledge, 2007.
5. R. L. Trask, '*Language: The Basics*'. Routledge, 2004.

REFERENCES:

1. Course materials prepared by the Faculty, Department of English.
E –resources:
2. Cambridge English – <https://www.cambridgeenglish.org/learningenglish/grammar-and-vocabulary/>
3. Perfect English Grammar – <https://www.perfect-english-grammar.com/>
4. British Council – Learn English - <https://learnenglish.britishcouncil.org/grammar>
5. Speechling – <https://speechling.com/>
6. mePro by Pearson – <https://mepro.pearson.com/>
7. TED Talks – <https://www.ted.com/>

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Demonstrate understanding of language and linguistics concepts and their role in communication.	K2
CO2	Present and manage speaking, listening, reading, writing, and communication tasks in academic and design contexts.	K3
CO3	Apply expression, discourse, and critical thinking skills in social and professional contexts.	

26DN101 DESIGN HISTORY AND MATERIAL CULTURE

3 0 0 3

INTRODUCTION TO HISTORY AND CULTURE: Multiple academic commentaries on “what is meant by history?” and “what is meant by culture?” . Historiography- Elements of cultural anthropology, Archaeology and Sociology. Identification parameters of culture. Language and Communication, Belief Systems and Values, Social Organization and Hierarchy, Customs, Rituals, and Traditions, Aesthetics and Creative Expression and Relationship with Geography and Environment. (9)

EVOLUTION OF DESIGN: FROM PREHISTORIC TIMES TO RIVER VALLEY CIVILIZATIONS: Design and Art in the Prehistoric Era - Early tools and their design, Pottery - practical object and an art form, cave paintings and carvings. Art and Design in River Valley Civilizations- Sumerian Civilization- cylinder seals, relief sculptures, jewellery, and innovations in cuneiform writing, temple art and votive offerings. Ancient Egypt- amulets, scarabs, and wall art. The Norte Chico civilization Quipu information knots. Hongshan, Liangzhu, Longshan and Erlitou Culture of the far east. Study of jade art, silk, egg shell pottery and bronze age artefacts. Aboriginal and Torres Strait Islander culture: advanced aquaculture and fish traps. (9)

DESIGN IN CLASSICAL CIVILIZATIONS: Cultural structures of Greek, Roman, Han, Gupta and Mayan rules. Social and political structures and achievements. Evolution of defining cultural artefacts - furniture, sculptures, frescoes, mosaics and decorative elements. Inventions, engineering and scientific advancements. Symbols and their evolution in Polytheism, Hinduism, Buddhism, Jainism, Confucianism and Taoism. Material influences and inventions - artefact design and production. Evolution and influence of Christian and Islamic art and symbolism. (9)

INDUSTRIAL REVOLUTION TO MODERNISM: The Industrial Shift: The Great Exhibition of 1851, The effect of mechanisation on Arts and Crafts Movement. Art Nouveau and Art Deco movement. Organic forms and total works of art (*Gesamtkunstwerk*) contradictions with the geometric, luxury-driven styling of the interwar period. Aesthetics influenced by mechanisation. De Stijl (neoplasticism) and Constructivism. Design as a tool for social revolution. The Bauhaus and Weimar Culture. Gropius, Kandinsky, and Breuer. The integration of art, craft, and technology. Dialectic of "form follows function". Pioneering Industrial Design: The rise of streamlining in the USA. The professionalization of the Industrial Designer. (9)

MODERNISM IN DESIGN: Introduction to Modernism- Key characteristics and history. Key Movements in Modern Art. Fauvism, Cubism, and Expressionism-Works of Artists: Matisse, Picasso, Kandinsky. The Bauhaus Movement-Origins and Principles. Key figures: Gropius, Moholy-Nagy. Graphic Design in Modernism-Evolution of typography and layout. Key designers- El Lissitzky, Paul Rand. Modern Art Movements-Surrealism and Dadaism-Key artists Dalí, Duchamp- Critique of Modernism- Introduction to Postmodernism. (9)

Total L: 45 Periods

TEXTBOOKS:

1. Maurice Barnwell, *Design and Culture: A Transdisciplinary History*. Purdue University Press, 2021.
2. Matthew Engelke, *Think Like an Anthropologist*. Penguin Books, 2019.
3. Henri Frankfort, *The Art and Architecture of the Ancient Orient*. Yale University Press, 1996.
4. Stephen Houston, *The Memory of Bones: Body, Being, and Experience among the Classic Maya*. University of Texas Press, 2006.
5. Bruce Pascoe, *Dark Emu: Aboriginal Australia and the Birth of Agriculture*. Magabala Books, 2018.

REFERENCES:

1. David Raizman, *History of Design: Decorative Arts and Material Culture from 1400 to Now*. Laurence King Publishing, 2010.
2. Hugh Honour and John Fleming, *A World History of Art*. Laurence King Publishing, 2009.
3. Julian Bell, *Mirror of the World: A New History of Art*. Thames & Hudson, 2010.
4. Nikolaus Pevsner, *Pioneers of Modern Design: From William Morris to Walter Gropius*. Yale University Press, 2015.
5. Christopher Butler, *Modernism: A Very Short Introduction*. Oxford University Press, 2010.
6. *Global Design History*. edited by Glenn Adamson, Giorgio Riello, and Sarah Teasley
7. Adam Kuper, *Culture: The Anthropologists' Account*. Harvard University Press, 2000.
8. David Inglis, *Culture and Everyday Life*. Routledge, 2005.
9. W. Brian Arthur, *The Nature of Technology: What It Is and How It Evolves*. Free Press, 2009.
10. Kikuji Itoh, *The First Cities: Culture in Transmission*. Tokyo University Press, 1982.

11. Chris Scarre, *'The Human Past: World Prehistory and the Development of Human Societies'*. Thames & Hudson, 2024.
12. Peter Frankopan, *'The Silk Roads: A New History of the World'*. Vintage, 2016.
13. Philip B. Meggs and Alston W. Purvis, *'Meggs' History of Graphic Design'*. John Wiley & Sons, 2016.
14. H. L. Schaffer, *'The Art of Prehistoric Man'*. McGraw-Hill, 1969.
15. Patrick O'Brien, *'The Industrial Revolution and British Society'*. Cambridge University Press, 1993.
16. Reyner Banham, *'Theory and Design in the First Machine Age'*. MIT Press, 1980.
17. Glenn Adamson, Giorgio Riello, and Sarah Teasley, *'Global Design History'*. Routledge, 2011.

COURSE OUTCOMES:

At the end of the course, students will be able to:		Bloom's Level
CO1	Define and differentiate between various academic interpretations of "history" and "culture."	K2
CO2	Demonstrate the ability to trace the evolution of design from prehistoric tools to the sophisticated artifacts of classical civilizations.	K3
CO3	Critically evaluate the impact of the Industrial Revolution on design, specifically the dialectic between craft-based movements and mechanization	

26DN111 MATERIAL STUDIES - DESIGN STUDIO - I**0 0 12 6**

THE MALLEABLE EARTH AND STRUCTURAL FORM: Science of Clay Bodies - Classifying Earthenware, Stoneware, and Porcelain. Understanding the four stages: Slurry, Plastic, Leather-hard, and Bone-dry. Additive Logic - Pinching and Coiling: Creating volume through manual pressure and linear buildup. Slab Construction - Transforming 2D sheets of clay into 3D geometric forms. Subtractive Logic - Carving and Sculpting Manipulation of leather-hard clay through incising and graffiti. Developing expressive statues - Understanding weight, internal support, and hollow vs. solid form. **(36)**

THERMAL TRANSFORMATION AND FINISHING: Preparation and Levigation - Refining raw clay and the "Wedging" process. Designing for the physical contraction of the material - Shrinkages The Kiln - Atmospheric Firing. The Bisque Fire. Operating the Kiln - electric and gas firing cycles. Surface Alchemy and Finality. Glazing and Oxides. Applying chemical layers - color, texture, and vitrification. Reduction vs. Oxidation. **(36)**

THE VOID AND THE PATTERN: Pattern Making and Materiality - The Positive - Creating master patterns in wood, wax, or foam. Understanding Draft Angles - Sand Casting and Mold Construction. The Flask. Understanding cope and drag. Green Sand - Resin Sand. Gating Systems - Designing Sprue, Runners and Risers. Lost Wax Foundations. Introduction to shell or plaster investment for complex, organic statues. Burn-out Process. **(36)**

THE CRUCIBLE AND THE LIQUID STATE: Metallurgy and Thermal Safety Introduction to non-ferrous metals - Aluminum, Brass, and Bronze. Safety Protocols. The Pour and Solidification the Melt - Charging the crucible and monitoring temperatures. Pouring Dynamics - Cooling and Divestment. Post-Casting Cleanup. Surface Treatment: Sandblasting, polishing. Defect Analysis. **(36)**

FINAL SYNTHESIS: A studio project using clay and metal (Ferrous or Non- Ferrous). Submission of a report of the learnings. **(36)**

Total S: 180 Periods**REQUIRED READING:**

1. Peter Cosentino, *'The Encyclopedia of Pottery Techniques'*. Search Press, 2018.
2. Anton Reijnders, *'The Ceramic Process: A Manual and Source of Inspiration'*. A&C Black, 2005.
3. Steve Hurst, *'Metal Casting: A Sand-Casting Manual for the Small Foundry'*. Crowood Press, 2011.
4. C. W. Ammen, *'The Complete Handbook of Sand Casting'*. McGraw-Hill Education, 1979.

REFERENCES:

1. Wayne E. Potratz, *'Hot Metal: A Complete Guide to the Metal Casting of Sculpture'*. University of Minnesota, 2019.
2. Vince Pitelka, *'Clay: A Studio Handbook'*. The American Ceramic Society, 2016.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Ability to manipulate clay and metal from their raw states to final forms, demonstrating a technical mastery over plasticity, shrinkage, and thermal change.	K2
CO2	Demonstrate the ability to navigate a multi-stage production workflow, including pattern making, mould construction, and kiln/furnace operation.	K3
CO3	Apply their technical knowledge to a group studio project, successfully executing clay and metal (ferrous or non-ferrous) material into a single cohesive design	

26DN112 ELEMENTS OF DESIGN**0 0 6 3**

INTRODUCTION TO ELEMENTS OF DESIGN: Introduction to Primary elements of Design – dot, line, shape, space–static and dynamic aspects of different compositions of design elements. **(18)**

ORDERING PRINCIPLES: Introduction to ordering principles: Dominant, Sub-dominant and Subordinate elements of emphasis, Axis, Symmetry, Hierarchy, Rhythm, Repetition. **(18)**

FORM AND SPACE: Figure and ground, positive and negative spaces. Form and Space, Basic Forms, Transformation of Forms, Formal Collisions of Geometry, Defining Space, Spatial Organization, Spatial Relationships. **(18)**

VISUAL COMPOSITION: Introduction to different 3-D forms and primitive forms, shapes - characteristic features and their behavior -. Transformation of 2-D to 3-D. **(18)**

PHENOMENOLOGY, PARAMETRICS, AND EVOLUTIONARY DESIGN: Phenomenology and the Sensory Space. Designing for haptics, acoustics, and thermal qualities as ordering elements. Creation of mood by synthesis of light, material, and scale. Material Agency. Nature's ordering principles (Biomimicry) as a higher form of the Fibonacci series. Data as Form: Generating complex design forms by mapping information (eg. wind patterns, user traffic, sound levels). Static vs. Kinetic: Elements that move, transform, or adapt. **(18)**

Total S: 90 Periods**TEXTBOOKS:**

1. Johannes Itten, '*The Art of Color: The Subjective Experience and Objective Rationale of Color*'. Wiley, 1974.
2. Wucius Wong, '*Principles of Form and Design*'. John Wiley & Sons, 1993.
3. Rudolf Arnheim, '*Art and Visual Perception: A Psychology of the Creative Eye*'. University of California Press, 2004.
4. Hugh Honour and John Fleming, '*A World History of Art*'. Laurence King Publishing, 2009.

REFERENCES:

1. Ernst Gombrich, '*The Story of Art*'. Phaidon Press, 2006. Kimberly Elam, '*Geometry of Design: Studies in Proportion and Composition*'. Princeton Architectural Press, 2011.
2. Jay Hambidge, '*The Elements of Dynamic Symmetry*'. Dover Publications, 1967.
3. Veronika Kapsali, '*Biomimetics for Designers: Applying Nature's Processes & Materials in the Real World*'. Thames & Hudson, 2016.
4. Mario Livio, '*The Golden Ratio: The Story of Phi, the World's Most Astonishing Number*'. Broadway Books, 2003.
5. Juhani Pallasmaa, '*The Eyes of the Skin: Architecture and the Senses*'. John Wiley & Sons, 2012.

COURSE OUTCOMES:

At the end of the course, students will be able to:		Bloom's Level
CO1	Able to identify, deconstruct, and apply the primary elements and ordering principles to create organized and intentional compositions.	K2
CO2	Demonstrate the ability to transform 2D shapes into 3D forms, showing a clear understanding of spatial relationships.	K3
CO3	Ability to create kinetic or sequential designs that evolve through interaction, moving beyond static objects.	

26DN113 THINKING THROUGH DRAWING

0063

THE ATTENTIVE EYE AND THE BRAIN-HAND LOOP: Drawing as a medium of expression and exchange of ideas. Rapid Observational Literacy. Blind contour drawing to synchronize eye-hand movement; gesture drawing to capture essence and weight over detail. Geometric Deconstruction- Training the eye to see complex organic subjects as clusters of primitive volumes - spheres, cubes, cylinders. Line Quality as Expression - Exploring line weights - thick, thin, tapered to communicate speed, shadow, and material importance without shading. Drawing through objects to see hidden structures; understanding "Center-lines" and "Cross-contour" lines to define 3D volume on 2D paper. (18)

IDEATION AND THE ARCHITECTURE OF THOUGHT: Iterative Thumbnailing. Draw exhaustive sketches reach novel solutions - divergent to convergent thinking. Visual Brainstorming. Mind-mapping through sketches - associative drawing to link disparate concepts into a single visual form. Abstraction to Realism. The process of simplifying a complex object into an icon/symbol and then re-expanding it into a detailed design concept. Scribble-to-Form - Generative Drawing. Using random marks and "pareidolia" to find and extract unexpected shapes for product or spatial design. (18)

NARRATIVE, SEQUENCE AND STORYBOARDING: The Design Storyboard. Breaking an action into frames. Visual Pacing. Using frame size and proximity to create tension or focus - Zoom-In/Zoom-Out technique to explain micro-details within a macro-environment. Comic Logic in Design. Introduction to Closure (Gestalt) in storytelling. Graphic Notation. Developing a personal shorthand for speed - using action lines .motion blurs," and impact stars to depict movement and energy. (18)

THE USER FLOW AND THE HUMAN DIMENSION: Mapping the Experience - Drawing Step-by-Step user journeys. Sketching the Persona. Drawing simplified humans mannequins/stick-figures to show ergonomic interaction, reach, and posture. First-Person Perspective. Drawing from the User's Eye View. Emotional Mapping. Using facial expressions and body language in sketches to communicate user frustration, delight, or ease of use. (18)

ANNOTATION, EXCHANGE AND VISUAL SYNTHESIS: The Annotated Sketch. Mastering Call-outs and Leader lines - using text and symbols to explain material, function, and internal mechanics. Collaborative Sketch-Talk. Techniques for drawing while speaking - using sketches as a "live" medium for negotiation and idea exchange in a team. Composite Visualization. Combining different views - a detail sketch, a user interaction, and a context sketch- into a single, cohesive Concept Board. Speculative Sketching. Drawing "What If" scenarios—visualizing how a design might fail, break, or be used in 100 years. (18)

Total S: 90 Periods

TEXTBOOKS:

1. Betty Edwards, *'Drawing on the Right Side of the Brain'*. Tarcher Perigee, 2012.
2. Scott Robertson and Thomas Bertling, *'How to Draw: Drawing and Sketching Objects and Environments from Your Imagination'*. Design Studio Press, 2013.
3. Mike Rohde, *'The Sketchnote Handbook: The Illustrated Guide to Visual Note Taking'*. Peachpit Press, 2012.
4. Koos Eissen and Roselien Steur, *'Sketching: Drawing Techniques for Product Designers'*. BIS Publishers, 2007.
5. Scott McCloud, *'Understanding Comics: The Invisible Art'*. William Morrow Paperbacks, 1994.

REFERENCES:

1. Stephanie Torta and Alan Burkholder, *'Storyboarding: Motion Graphics Title Design and Animation'*. Mercury Learning and Information, 2021.
2. Erik Olofsson and Klara Sjöln, *'Design Sketching'*. KEEOS Design Books, 2005.
3. Bill Buxton, *'Sketching User Experiences: Getting the Design Right and the Right Design'*. Morgan Kaufmann, 2007.
4. Brand Willems, *'Visual Thinking: Empowering People and Organizations through Visual Collaboration'*. BIS Publishers, 2017.
5. Koos Eissen and Roselien Steur, *'Sketching: The Basics'*. BIS Publishers, 2011.
6. Rosanne Somerson and Mara Hermano, *'The Art of Critical Making: An Rhode Island School of Design Guide to Creative Practice'*. Wiley, 2013.
7. Julius Panero and Martin Zelnik, *'Human Dimension and Interior Space: A Source Book of Design Reference Standards'*. Watson-Guptill, 1979.
8. Richard Williams, *'The Animator's Survival Kit'*. Faber & Faber, 2012.

9. Kurt Hanks and Larry Belliston, *Rapid Viz: 'A New Method for the Rapid Visualization of Ideas'*. William Kaufmann, 2006.
10. Paul Laseau, *'Freehand Sketching: An Introduction'*. W. W. Norton & Company, 2004.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Ability to deconstruct complex organic subjects into geometric primitives and use iterative thumbnailing to move from divergent to convergent thinking.	K2
CO2	Demonstrate the ability to map the human dimension of design by creating storyboards and user flow sequences.	K3
CO3	Ability to synthesize multiple perspectives into a single Concept Board, utilizing technical annotations and graphic notation to explain function and mechanics.	

Semester II
25HS201 தமிழரும் தொழில்நுட்பமும்
(Common to all B.E./B.Tech./B.Des. Programmes)

1001

நெசவு மற்றும் பாணைத் தொழில்நுட்பம்: சங்க காலத்தில் நெசவுத் தொழில் – பாணைத் தொழில்நுட்பம் – கருப்பு சிவப்பு பாண்டங்கள் – பாண்டங்களில் கிறல் குறியீடுகள். (3)

வடிவமைப்பு மற்றும் கட்டிடத் தொழில்நுட்பம்: சங்க காலத்தில் வடிவமைப்பு மற்றும் கட்டுமானங்கள், சங்க காலத்தில் வீட்டுப் பொருட்களில் வடிவமைப்பு – சங்க காலத்தில் கட்டுமான பொருட்களும் நடுகல்லும் – சிலப்பதிகாரத்தில் மேடை அமைப்பு பற்றிய விவரங்கள் – மாமல்லபுரச் சிற்பங்களும், கோவில்களும் – சோழர் காலத்துப் பெருங்கோயில்கள் மற்றும் பிற வழிபாட்டுத் தலங்கள் – நாயக்கர் காலக் கோயில்கள் – மாதிரி கட்டமைப்புகள் பற்றி அறிதல், மதுரை மீனாட்சி அம்மன் ஆலயம் மற்றும் திருமலை நாயக்கர் மஹால் – செட்டிநாட்டு வீடுகள் – பிரிட்டிஷ் காலத்தில் சென்னையில் இந்தோ-சாரோசெனிக் கட்டிடக் கலை. (3)

உற்பத்தித் தொழில்நுட்பம்: கப்பல் கட்டும் கலை – உலோகவியல் – இரும்புத் தொழிற்சாலை – இரும்பை உருக்குதல், எஃகு – வரலாற்றுச் சான்றுகளாக செம்பு மற்றும் தங்க நாணங்கள் – நாணயங்கள் அச்சடித்தல் – மணி உருவாக்கும் தொழிற்சாலைகள் – கல்மணிகள், கண்ணாடி மணிகள் – சுடுமண் மணிகள் – சங்கு மணிகள் – எலும்புத் துண்டுகள் – தொல்லியல் சான்றுகள் – சிலப்பதிகாரத்தில் மணிகளின் வகைகள். (3)

வேளாண்மை மற்றும் நீர்ப்பாசனத் தொழில் நுட்பம்: அணை, ஏரி, குளங்கள், மதகு – சோழர்காலக் குழுமித் தூம்பின் முக்கியத்துவம் – கால்நடை பராமரிப்பு – கால்நடைகளுக்காக வடிவமைக்கப்பட்ட கிணறுகள் – வேளாண்மை மற்றும் வேளாண்மைச் சார்ந்த செயல்பாடுகள் – கடல்சார் அறிவு – மீன்வளம் – முத்து மற்றும் முத்துக்குளித்தல் – பெருங்கடல் குறித்த பண்டைய அறிவு – அறிவுசார் சமூகம். (3)

அறிவியல் தமிழ் மற்றும் கணினித்தமிழ்: அறிவியல் தமிழின் வளர்ச்சி – கணினித்தமிழ் வளர்ச்சி – தமிழ் நூல்களை மின்பதிப்பு செய்தல் – தமிழ் மென்பொருட்கள் உருவாக்கம் – தமிழ் இணையக் கல்விக்கழகம் – தமிழ் மின் நூலகம் – இணையத்தில் தமிழ் அகராதிகள் – சொற்குவைத் திட்டம். (3)

Total L: 15 periods

25HS201 TAMILS AND TECHNOLOGY
(Common to all B.E./B.Tech./B.Des. Programmes)

1001

WEAVING AND CERAMIC TECHNOLOGY: Weaving Industry during Sangam Age – Ceramic technology – Black and Red Ware Potteries (BRW) – Graffiti on Potteries. (3)

DESIGN AND CONSTRUCTION TECHNOLOGY: Designing and Structural construction House & Designs in household materials during Sangam Age - Building materials and Hero stones of Sangam age – Details of Stage Constructions in Silappathikaram - Sculptures and Temples of Mamallapuram - Great Temples of Cholas and other worship places - Temples of Nayaka Period - Type study (Madurai Meenakshi Temple)- Thirumalai Nayakar Mahal - Chetti Nadu Houses, Indo - Saracenic architecture at Madras during British Period. (3)

MANUFACTURING TECHNOLOGY: Art of Ship Building - Metallurgical studies - Iron industry - Iron smelting, steel -Copper and gold- Coins as source of history - Minting of Coins – Beads making-industries Stone beads -Glass beads - Terracotta beads -Shell beads/ bone beads - Archeological evidences - Gem stone types described in Silappathikaram. (3)

AGRICULTURE AND IRRIGATION TECHNOLOGY: Dam, Tank, ponds, Sluice, Significance of Kumizhi Thoompu of Chola Period, Animal Husbandry - Wells designed for cattle use - Agriculture and Agro Processing - Knowledge of Sea - Fisheries – Pearl - Conch diving - Ancient Knowledge of Ocean - Knowledge Specific Society. (3)

SCIENTIFIC TAMIL & TAMIL COMPUTING: Development of Scientific Tamil - Tamil computing – Digitalization of Tamil Books – Development of Tamil Software – Tamil Virtual Academy – Tamil Digital Library – Online Tamil Dictionaries – Sorkuvai Project. (3)

Total L: 15 periods

TEXTBOOKS:

1. கே. கே. பிள்ளை, தமிழக வரலாறு - மக்களும் பண்பாடும், தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்.
2. முனைவர் இல. சுந்தரம், கணினித்தமிழ், விகடன் பிரசுரம்
3. கீழடி - வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம், தொல்லியல் துறை வெளியீடு
4. பொருநை - ஆற்றங்கரை நாகரிகம், தொல்லியல் துறை வெளியீடு
5. Dr. K.K. Pillay, 'Social Life of Tamils'. A joint publication of TNTB, ESC and RMRL
6. Dr. S. Singaravelu, 'Social Life of the Tamils – The Classical Period'. International Institute of Tamil Studies.
7. Dr. S.V. Subramanian and Dr. K.D. Thirunavukkarasu, 'Historical Heritage of the Tamils'. International Institute of Tamil Studies
8. Dr. M. Valarmathi, 'The Contributions of the Tamils to Indian Culture'. International Institute of Tamil Studies.
9. Keeladi – 'Sangam City Civilization on the banks of river Vaigai'. Department of Archaeology, Tamilnadu Text Book and Educational Services Corporation, Tamilnadu
10. Dr. K.K. Pillay, Studies in the History of India with Special Reference to Tamilnadu
11. 'Porunai Civilization'. Department of Archaeology, Tamil Nadu Text Book and Educational Services Corporation, Tamilnadu
12. R. Balakrishnan, 'Journey of Civilization Indus to Vaigai'. RMRL, Tamilnadu

REFERENCES:

1. Priyadharshini, 'தமிழரும் தொழில்நுட்பமும் (Tamils and Technology)'. VK publications, Sivakasi.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Identify the significance of ancient Tamil technologies in weaving, pottery, metallurgy, and architecture, with emphasis on traditional design and construction methods across historical periods.	K2
CO2	Use insights from traditional Tamil knowledge systems in agriculture, irrigation, and marine sciences, and connect the development of Tamil language to its applications in digital platforms and computing.	K3

26DN201 DESIGN ANTHROPOLOGY AND CREATIVE PROCESS

3003

DESIGN ANTHROPOLOGY – THE HUMAN CONTEXT: Introduction to Design Anthropology. The difference between “User-Centered” to “Human-Centered”; understanding design as a cultural act. The Ethnographic Eye. Learning observational techniques; Participant Observation, Passive Observation, Interviewing techniques and types. Material Culture and Rituals. Studying how objects gain meaning through use; Analysing Unspoken Needs and daily rituals. Empathy Mapping. Visualizing the user’s world, what they see, hear, think, and feel; identifying “Pain Points” and “Moments of Delight”. (9)

CULTURAL LENSES AND ETHICAL DESIGN: Contextualizing design within society and the environment. Global and Local influences - Adaptation of design to different cultures. Case studies on universal objects across different societies. The Ethics of Intervention - Discussing the responsibility of the designer, the potential of design to inadvertently change or destroy cultural habits. Sustainable Anthropology - Studying indigenous wisdom and frugal innovation as a source for contemporary design solutions. Archetypes and Symbol - Understanding the semiotics of design—how shapes and colours carry different cultural meanings. (9)

THE CREATIVE PROCESS - IDEATION AND ITERATION: A hands-on design process exercise. The Double Diamond Model. The “Problem Reframing” Exercise. Taking a standard brief and reframing it based on Unit I findings. Rapid Prototyping. Failure as a Process - understand Fail Fast mentality; using Feedback Loops to identify and nurture optimal concepts. (9)

SYSTEMS THINKING AND STORYTELLING: Service Design and Touchpoints. Mapping the entire ecosystem around a product. Visual Storytelling. storyboarding to pitch the design solution in its cultural context. Peer Review and Critique. The studio culture of constructive feedback. Anthropological evidence to ascertain a design choice. (9)

THE “CULTURAL ARTIFACT” PROJECT: The Brief - Design a tool or system that enhances a specific cultural ritual for a contemporary urban/rural user

Phase 1: Conduct an ethnographic study of a chosen ritual (cooking, commuting, sleeping, etc.).

Phase 2: Apply the Creative Process to prototype a solution. Submission: A final prototype accompanied by a “Process Journal” that documents the anthropological research and the evolution of the idea. (9)

Total L: 45 Periods

TEXTBOOKS:

1. IDEO.org, ‘*The Field Guide to Human-Centered Design*’. IDEO.org, 2015.
2. Tim Brown, ‘*Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*’. Harper Business, 2019.
3. Sasha Costanza-Chock, ‘*Design Justice: Community-Led Practices to Build the Worlds We Need*’. MIT Press, 2020.
4. Donella H. Meadows, ‘*Thinking in Systems: A Primer*’. Chelsea Green Publishing, 2008.
5. Don Norman, ‘*The Design of Everyday Things*’. Basic Books, 2013.

REFERENCES:

1. Arjun Appadurai, ‘*The Social Life of Things: Commodities in Cultural Perspective*’. Cambridge University Press, 1986.
2. Marcel Mauss, ‘*The Gift: Forms and Functions of Exchange in Archaic Societies*’. Routledge, 2002.
3. Alison J. Clarke, ‘*Design Anthropology: Object Lessons and Courtship Processes*’. Bloomsbury Academic, 2017.
4. Cliff Kuang and Robert Fabricant, ‘*User Friendly: How the Hidden Rules of Design Are Changing the Way We Live, Work, and Play*’. MCD, 2019.
5. Wendy Gunn, ‘*Ton Otto, and Rachel Charlotte Smith, Design Anthropology: Theory and Practice*’. Bloomsbury Academic, 2013.
6. Victor Papanek, ‘*Design for the Real World: Human Ecology and Social Change*’. Chicago Review Press, 2019.
7. Tom Kelley and David Kelley, ‘*Creative Confidence: Unleashing the Creative Potential Within Us All*’. Crown Business, 2013.
8. Vijay Kumar, ‘*101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*’. John Wiley & Sons, 2012.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Synthesize cultural insights and human behaviour into intentional, ethical design interventions.	K2
CO2	Demonstrate the ability to design "Cultural Artifacts" that respect local traditions while addressing contemporary needs.	K3
CO3	Apply ethnographic research methods to collect information and employ suitable design process to conceive a probable solution.	

26DN202 COLOUR THEORY

1 0 4 3

THE FOUNDATIONS OF COLOR SCIENCE: Physics of Light: Understanding the visible spectrum, reflection, refraction, and the mechanics of human vision. Additive and Subtractive Colour - Mastering the differences between the RGB (Light) and RYB/CMYK (Pigment) models. Dimensions of Colour. Hue, Value (Luminance), and Saturation (Chroma). Colour Systems. Introduction to the Munsell System, Pantone (PMS), and digital hex coding. **(3+12)**

COLOR HARMONY AND COMPOSITION: The Colour Wheel: Exploring primary, secondary, and tertiary colour relationships. Harmonic Schemas. Practical application of Monochromatic, Analogous, Complementary, Split-Complementary, Triadic, and Tetradic schemes. Tonal Development. Understanding tints, shades, and tones to create depth and hierarchy. Interaction of colour. Studying Josef Albers' theories—how colours change based on their neighbours (simultaneous contrast and vibrating boundaries). **(3+12)**

PERCEPTION, PSYCHOLOGY, AND SEMANTICS: Emotional Resonance: Colours effect on mood, appetite, and spatial perception. Cultural Semantics: Exploring how color meanings shift across different geographies and traditions (e.g., the significance of a colour in Eastern vs. Western contexts). The ethics of Color: Integrating ethics into aesthetics—ensuring color choices respect cultural nuances and social empathy. Accessibility (UI/UX): Designing for color vision deficiency (CVD) and ensuring high-contrast readability. **(3+12)**

MATERIALITY AND MEDIUMS: Pigments and Dyes: The history of colorants, from natural minerals to synthetic dyes. Surface and Texture: How finish (matte, gloss, metallic) alters the perception of color. Digital vs. Physical: Techniques for color calibration and ensuring consistency from screen to print or manufacture. Sustainable Pigmentation: Introduction to ecological dyes and the environmental impact of industrial coloring processes. **(3+12)**

APPLIED COLOR STRATEGY: Branding and Identity: Using color to define personality and market positioning. Environmental Design: Color application in architecture and public spaces to influence behavior and well-being. Trend Forecasting: Understanding the cycle of "Color of the Year" and how socio-economic factors influence color trends. Capstone Project: Developing a comprehensive color palette for a product or social initiative that balances aesthetic beauty with functional clarity. **(3+12)**

Total L: 15 + S: 60 = 75 Periods

TEXTBOOKS:

1. Betty Edwards, *'Color: A Course in Mastering the Art of Mixing Colors'*. Tarcher Perigee, 2004.
2. Johannes Itten, *'The Elements of Color'*. John Wiley & Sons, 1970.
3. Kassia St. Clair, *'The Secret Lives of Color'*. Penguin Books, 2017.
4. Sean Adams, *'The Designer's Dictionary of Color'*. Abrams Studio, 2017.

REFERENCES:

1. Josef Albers, *'Interaction of Color'*. Yale University Press, 2013.
2. Sean Adams, *'Color Design Workbook: A Real-World Guide to Using Color in Graphic Design'*. Rockport Publishers, 2017.
3. Jim Krause, *'Color for Designers: Ninety-five things you need to know when choosing and using colors for layouts and illustrations'*. New Riders, 2014.
4. Robiya Williams, *'The Materials Sourcebook for Design Professionals'*. Thames & Hudson, 2020.
5. Edward Tufte, *'Envisioning Information'*. Graphics Press, 1990.
6. Regina Lee Blaszczyk, *'The Color Revolution'*. MIT Press, 2012.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Scientifically calibrate and apply color across diverse mediums	K2
CO2	Justify color choices through the lens of human behavior and cultural ethics	K3
CO3	Will master the "Interaction of Color," using hue, value, and saturation to control a viewer's eye movement and emotional journey	

26DN211 MATERIAL STUDIES - DESIGN STUDIO II**0 0 12 6**

WOOD PROPERTIES: Types: Softwood, hardwood, local species. Structure: Grain direction, fibers, density. Behavior: Moisture, warping, shrinking, seasoning. Safety: Dust, handling, workplace awareness. **(36)**

WOOD JOINERY: Joints: Lap, mortise-tenon, dowel, miter. Interfaces: Grain alignment, glue bonding. Surfaces: Texture, sanding grits, grain filling. Finishes: Oils, waxes, surface protection. **(36)**

SHEET METAL: Ferrous, non-ferrous, sheet gauges, Thickness, flexibility, work hardening. Patterns, bend lines, margins Overlaps, hems. **(36)**

METAL JOINING: Safety: Sparks, glare, gas safety. Gas: Fusion, heat control. Electric: Arc control, heat zones, slag Connections: Butt, lap, tee, corner. **(36)**

CASTING AND HYBRIDS: Foundry: Shrinkage, draft angles, molten flow. Molds: Sand mix, venting, packing. Cooling: Solidification, defects, cleaning. Hybrids: Wood-metal connections, material contrast. **(36)**

Total S: 180 Periods**TEXTBOOKS:**

1. Bruce Hoadley, '*Understanding Wood: A Craftsman's Guide to Wood Technology*'. Taunton Press, 2000.
2. Gary Rogowski, '*The Complete Illustrated Guide to Joinery*'. Taunton Press, 2002.
3. Tage Frid, '*Tage Frid Teaches Woodworking: Joinery, Shaping, Veneering, Finishing*'. Taunton Press, 1993.
4. Bob Flexner, '*Understanding Wood Finishes: How to Select and Apply the Right Finish*'. Fox Chapel Publishing, 2021.

REFERENCES:

1. Ron Fournier and Sue Fournier, '*Sheet Metal Handbook*'. HP Books, 1989.
2. Scott Robertson and Thomas Bertling, '*How to Draw: Drawing and Sketching Objects and Environments from Your Imagination*'. Design Studio Press, 2013.
3. Ed Barr, '*Professional Sheet Metal Fabrication*'. Motor books, 2013.
4. R. Bruce Hoadley, '*Understanding Wood: A Craftsman's Guide to Wood Technology*'. Taunton Press, 2000.
5. Gary Rogowski, '*The Complete Illustrated Guide to Joinery*'. Taunton Press, 2002.
6. Ron Fournier and Sue Fournier, '*Sheet Metal Handbook*'. HP Books, 1989.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Analyze material behavior and select appropriate manufacturing mediums	K2
CO2	Execute Precise Subtractive Woodworking and Form-Giving Techniques	K3
CO3	Develop Flat Sheet Layouts and Fabricate Finished Multi-Material Prototypes	

26DN212 DESIGN OF RESPONSIVE DEVICES

0084

INTRODUCTION TO MICROCONTROLLERS AND CODING: How Products Respond - Understanding how interactive products take in information, process it, and react. Introduction to Hardware - Getting familiar with development boards, their pin layouts, and basic power needs. Introduction to coding - variables, conditional rules (if-else statements), loops, and simple timing commands. Working with Signals: Understanding the difference between Digital (on/off) and Analog (range-based) inputs and outputs, and using the serial monitor to test code.

(26)

HEAR, SEE, FEEL: WORKING WITH SENSORS: Reading the Physical World - How sensors gather real-world data and convert it into numbers a computer can read. Tracking Movement and Distance: Setting up ultrasonic distance sensors, infrared motion detectors (PIR), and touch-sensitive surfaces. Reading the Environment: Working with light sensors (LDRs), temperature/humidity modules, and basic tilt switches to track changes in surroundings. Cleaning the Data: Simple coding tricks to smooth out jumpy readings, filter out noise, and make button presses reliable.

(26)

MAKING THINGS MOVE: MOTORS, LIGHTS, AND SCREENS: Giving Products Action - Turning code decisions back into physical movement, light patterns, and sounds. Controlled Movement: Using micro-servo motors to create precise angular sweeping motions and mechanical steps. Continuous Rotation: Driving simple DC motors and small stepper motors using driver modules. User Feedback: Programming multi-colour LEDs for visual cues, buzzers for sound alerts, and small digital screens (OLED) to display text or menus to the user.

(26)

CONNECTING TO THE NET: SMART ENCLOSURES AND IOT: Introduction to IoT: Understanding how everyday smart products connect to the internet and exchange information. Going Wireless: Using the built-in Wi-Fi and Bluetooth on the board to send data through the air. Sending and Receiving Data: Simple ways to transmit sensor values and commands between devices. Cloud Dashboards: Connecting projects to free web platforms to log data, trigger mobile alerts, or control a motor remotely from a phone.

(26)

3D PRINTING AND FINAL PRODUCT SYNTHESIS: From Wire to Product: Moving a project from a messy prototype breadboard into a clean, durable physical product. 3D Printing Fundamentals: Learning how FDM 3D printers work, setting up slicer software, and choosing layer heights and infill for strong parts. Designing with Tolerances: Modelling custom cases that cleanly fit the microcontroller, battery packs, and leaving clear openings for sensors. Capstone Project: Building a complete, fully enclosed responsive device that solves a practical everyday problem or helps improve a real-world interaction.

(26)

Total S: 120 Periods**TEXTBOOKS:**

1. Massimo Banzi and Michael Shiloh, '*Getting Started with Arduino: The Open Source Electronics Prototyping Platform*'. Make Community, 2022.
2. Simon Monk, '*Programming Arduino: Getting Started with Sketches*'. McGraw Hill, 2016.
3. Joan Horvath and Rich Cameron, '*3D Printing Blueprints: Maker and Professional Guide*'. A press, 2015.
4. Klaus Finkenzeller, '*IoT Development: Architecture and Protocols*'. John Wiley & Sons, 2021.

REFERENCES:

1. Tom Igoe, '*Making Things Talk: Practical Methods for Connecting Physical Objects*'. Maker Media, 2017.
2. Adrian McEwen and Hakim Cassimally, '*Designing the Internet of Things*'. John Wiley & Sons, 2013.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Exhibit basic understanding of microcontrollers.	K2
CO2	Execute basic understanding of sensors and IoT.	K3
CO3	Ability to develop basic responsive devices.	

26DN213 FORM STUDIES

0084

ABSTRACT GEOMETRIC and SURFACE CONTINUITY: Primitive Archetypes - Platonic and Archimedean solids; understanding internal axes of symmetry, spatial orientation, and structural stability. Subtraction and Additive Logic - Form generation through boolean operations—carving, nesting, intersecting, and splitting primitive masses. Plasticity and Radii Transition: The mechanics of fillets, chamfers, and complex surface blending. Moving from crisp geometric intersections to fluid, continuous organic transitions. (26)

TECTONICS, SEAMS, AND SHEET MANIPULATION: Planar to Volumetric (2D to 3D): The topology of paper and sheet materials. Scoring, folding, faceting, and origami tessellations as structural form-giving principles. The Tectonic Joint: Understanding how form meets form. Designing regular and irregular seams, interlocking mechanisms, and friction-fit joinery without external adhesives. Monocoque vs. Skeletal Systems: Exploring shell structures (skin as form) versus framework structures. (26)

SPACE, STRUCTURE AND VISUAL METAPHOR: Nature's Morphological Rules: Analysing the growth patterns of shells, bones, seed pods, and crystalline structures (morphogenesis). Proportional Scaling: Practical application of the Golden Ratio, Fibonacci growth vectors, and Le Corbusier's Modular to 3D forms. Dynamic Tension and Gesture: Infusing life into static objects. Exploring lines of force, visual weight distribution, and how a physical form can express directional movement. Visual Metaphors: Exploring visual puns—how modifying a shape changes its cultural, emotional, or semantic meaning. (26)

PARAMETRIC LOGIC AND KINETIC FORCES: Deployable and Transforming Form: Forms that expand, collapse, or alter their state based on human interaction or mechanical linkages. Algorithmic Form Thinking: Introduction to parametric logic in physical space. Environmental Aerodynamics and Hydrodynamics: Designing forms that gracefully negotiate external forces—how wind profiles, water flow, or gravity sculpt fluid-dynamic envelopes. Data-Driven Tactility: Translating invisible informational maps into tangible, physical textures and surface topographies. (26)

ERGONOMIC AFFORDANCE AND THE CIRCULAR ENVELOPE: The Tactile Interface: Designing for the human hand. Ergonomic form-giving, touch affordances, and haptic cues -how form implicitly tells a user where to grip, push, or lift. Enrich-by-Design Materiality - Form-giving using regenerative, circular, and localized materials mycelium growth, bio-composites, compressed agricultural waste. The Lifespan of a Form - Designing for weathering, decay, or beautiful aging -patina, wear patterns, as part of the formal aesthetic strategy.

Project: Developing a comprehensive physical product prototype that balances pristine geometric execution with sustainable production and clear human affordance. (26)

Total S: 120 Periods

TEXTBOOKS:

1. Wucius Wong, '*Principles of Three-Dimensional Design*'. John Wiley & Sons, 1993.
2. Rowena Reed Kostellow, '*Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships*'. Princeton Architectural Press, 2002.
3. Akiko Busch, '*The Design of Solids*'. Princeton Architectural Press, 2005.
4. Paul Jackson, '*Folding Techniques for Designers: From Sheet to Form*'. Laurence King Publishing, 2011.
5. Gail Greet Hannah, '*Biomorphic Structures: Architecture and Design Inspired by Nature*'. Laurence King Publishing, 2020.

REFERENCES

1. D'Arcy Wentworth Thompson, '*On Growth and Form*'. Cambridge University Press, 1992.
2. Juhani Pallasmaa, '*The Eyes of the Skin: Architecture and the Senses*'. John Wiley & Sons, 2012.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Analyze and Apply Morphological and Geometric Principles to 3D Form Generation	K2
CO2	Execute Advanced Tectonic, Kinematic, and Parametric Prototyping Systems	K3
CO3	Synthesize Human Affordance with Circular, Regenerative Material Strategies	

MANDATORY COURSES

26DNM01 UL-OLI (உள்ளுள்ளி) - UNEARTHING AND CURIOSITY

0 0 1 0

Goal: Reconnect with lost personal interests without academic judgment.

Focus: Students identify an interest they are passionate about (e.g., singing, cycling, sketching, cooking) and map their personal connection to it.

Deliverable: A reflective artefact (e.g., journal, audio log, visual timeline) tracing why this domain brings them joy and flow.

26DNM02 UL-OLI (உள்ளுள்ளி) - DECONSTRUCTION AND OBSERVATION

0 0 1 0

Goal: Shift from passive enjoyment to active, observational inquiry.

Focus: Dissecting the domain into its core elements. (e.g., If it's singing: pitch, acoustics, breath control, emotional delivery, or vocal anatomy).

Deliverable: An "anatomy map" or breakdown of the medium's internal rules, tools, and structures.

25HSO01 PHYSICAL EDUCATION**(Common to all B.E./B.Tech./B.Des. Programmes)****0 0 2 0**

INTRODUCTION TO PHYSICAL EDUCATION: Importance and scope of physical education, Physical fitness and exercise fundamentals, Conditioning and calisthenics exercises, Posture, flexibility, balance, and coordination, Warm-up, cool-down, and relaxation techniques, Basics of injury prevention and first aid practices, Importance of teamwork, discipline, and sportsmanship.

BASIC GYMNASTICS AND MOVEMENT EXERCISES: Warm-up exercises, conditioning drills, movement education, balance exercises, floor exercises, tumbling basics, swinging and grip exercises, simple apparatus activities, lead-up games, coordination drills, and safety practices.

SKILL DEVELOPMENT IN ANY ONE OF THE FOLLOWING OUTDOOR GAMES: Basketball, Volleyball, Ball Badminton, and Football.

SKILL DEVELOPMENT IN ANY ONE OF THE FOLLOWING INDOOR GAMES: Shuttle Badminton, Chess, Carrom, and Table Tennis.

Total P: 30 Periods**WEIGHTAGE**

Continuous Assessment: 100%

ASSESSMENT

- Attendance and Participation – 70%
- Practical Assessment of Physical Fitness and Sports Skills – 30%

REFERENCES

1. Singh, A. '*Essentials of Physical Education*'. Kalyani Publishers.
2. Kamlesh, M.L. '*Psychology in Physical Education and Sport*'.
3. Mangal, S.K. '*Psychology of Sports Performance*'. Sports Publication.
4. Kandappan, K. '*Foundations of Physical Education*'. Friends Publications.

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Demonstrate basic movement, balance, coordination, and fitness exercises with proper technique and safety awareness.	K2
CO2	Demonstrate physical fitness parameters such as endurance, agility, flexibility, speed, and strength through regular participation in physical activities.	K2
CO3	Develop teamwork, discipline, leadership qualities, and sportsmanship through participation in games and group activities.	K3
CO4	Adopt active lifestyle habits and participate regularly in physical and recreational activities for overall well-being.	K3

25HSO02 YOGA AND HEALTH
(Common to all B.E./B.Tech./B.Des. Programmes)

0 0 2 0

INTRODUCTION TO YOGA: Yoga as a tool for physical and mental wellness, Importance of posture, breathing, relaxation, and mindfulness, Role of yoga in stress management and lifestyle balance, Basic guidelines and safety precautions for yoga practice, Introduction to healthy habits including sleep hygiene, nutrition, and digital well-being

SURYA NAMASKAR – TYPES OF POSTURES: Pranamasana (Prayer Pose), Hastauttanasana (Raised Arms Pose), Padahastanasana / Hastapadasana (Standing Forward Bend), Ashwa Sanchalanasana (Equestrian Pose), Dandasana (Plank Pose), Ashtanga Namaskara (Eight-Limbed Salutation), Bhujangasana (Cobra Pose), Adho Mukha Svanasana (Downward-Facing Dog), Ashwa Sanchalanasana (Equestrian Pose), Padahastanasana (Standing Forward Bend), Hastauttanasana (Raised Arms Pose), and Pranamasana (Prayer Pose).

BASIC ASANAS:

1. Standing – Tadasana, Utkatasana, Trikonasana, Virabhadrasana, and Vrikshasana
2. Sitting – Sukhasana, Dandasana, Paschimottanasana, Vajrasana, and Gomukhasana
3. Prone Position – Bhujangasana, Salabhasana, Dhanurasana, Makarasana, and Urdhva Mukha Svanasana
4. Supine Position – Apanasana, Viparita Karani, Supta Baddha Konasana, Ardha Halasana, and Savasana

PRANAYAMA TECHNIQUES & MUDRAS: Ujjayi, Nadi Shodhana, Sheetali, Sitkari, Kapalabhati, Bhastrika, and Bhramari. Gyan Mudra (Chin Mudra), Prana Mudra, Apana Mudra, Vayu Mudra, Prithvi Mudra, Varun Mudra, Surya Mudra, Shunya Mudra, Linga Mudra, and Anjali Mudra.

Total P: 30 Periods

WEIGHTAGE: Continuous Assessment: 100%

ASSESSMENT METHODOLOGY: Attendance and Participation – 70%, Practical Demonstration (Surya Namaskar, Asanas, and Pranayama) – 30%

REFERENCES

1. 'The Heart of Yoga'. – T.K.V. Desikachar
2. 'Yoga for Holistic Health'. – Dr. H.R. Nagendra
3. 'Light on Yoga'. – B.K.S. Iyengar
4. 'Asana Pranayama Mudra Bandha'. – Swami Satyananda Saraswati

COURSE OUTCOMES

At the end of the course, students will be able to:		Bloom's Level
CO1	Demonstrate Surya Namaskar and basic asanas in standing, sitting, prone, and supine positions with correct alignment and breathing.	K2
CO2	Demonstrate pranayama techniques for stress management and respiratory health.	K2
CO3	Improve flexibility, balance, posture, breathing efficiency, and relaxation through regular yoga practice.	K3
CO4	Apply principles of healthy living such as nutrition, sleep hygiene, and digital well-being in daily life.	K3