

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
DESIGN AND MANUFACTURING, KANCHEEPURAM,
CHENNAI – 600 127**

FACULTY RECRUITMENT

(Ref.: Advt. No. IIITDMK/R/2/2024 dated 15.07.2024)

SYLLABUS FOR WRITTEN TEST

Post: **Assistant Professor Grade-II (Level 10 and Level 11)**

SCHOOL OF INTERDISCIPLINARY DESIGN AND INNOVATION

Section 1: Design History

- Cultural influences on design: American, German, French, Japanese, Korean, Indian
- Impact of technology on design practices & Evolution of industrial design
- Design movements: Bauhaus, Art Deco, Modernism, Postmodernism
- Contemporary design movements: Sustainable and eco-design, digital/interactive art

Section 2: Principles of Design

- Design elements: line, form, space, color, texture, and balance
- Principles of composition and aesthetics
- Exploring the relationship between form and function
- Emotional design and its impact on usability
- Semiotics and symbolism in design
- Parametric and generative design

Section 3: Design Methods

- Methods used in industrial design, architecture, graphic design, interaction design.
- Qualitative and quantitative research methods in design
- Visual analysis and critique in design
- Divergent and convergent thinking
- Techniques for generating creative ideas: brainstorming, mind mapping, SCAMPER.

Section 4: Ergonomics and Human Factors in Design

- Ergonomics Principles: Human-centered design, Anthropometry and biomechanics, Comfort, usability, and safety in product and spatial design
- Cognitive Ergonomics: Human behaviour in interaction with products, Information processing and perception, Usability testing and user experience design

Section 5: Interaction Design

- Basics of Interaction Design: Human-Computer Interaction (HCI), User-centered interaction design, Touchpoints, feedback, and affordances
- Digital Interfaces: Wire framing and prototyping, User flow and navigation design, Responsive design principles for mobile and web
- Emerging Technologies: Wearables and smart devices, AR/VR interfaces, Interaction with AI and machine learning systems

Section 6: Bio-Inspired Design

- Difference between bio-mimicry and bio-inspiration
- Structural design inspired by biology
- Sustainable design solutions through biomimicry
- Bio-inspired innovation in materials and mechanics
