
FUNDAMENTALS OF DIGITAL ARCHITECTURE

A COMPREHENSIVE TEXT BOOK
(As Per New Syllabus)



AUTHOR

Ar. MADHURI AGRAWAL

Deptt. of Architecture & Regional Planning
Gautam Buddha University, Greater Noida, India



**FUNDAMENTALS
OF
DIGITAL ARCHITECTURE**

**A Comprehensive Text Book
(As Per New Syllabus)**

Editor

PROF. (Dr.) Krishna Kumar Dhote
Deptt. Of Architecture and Planning
(NIT, Bhopal, Madhya Pradesh, India)

Author

Ar. Madhuri Agrawal
Deptt. of Architecture & Regional Planning
Gautam Buddha University, Greater Noida, INDIA



Publisher :

Aditi Publication, Raipur, Chhattisgarh, INDIA

***Fundamentals of Digital Architecture A
Comprehensive Text Book***

Year: **2024**
Edition - **01**

Author

Ar. Madhuri Agrawal

Greater Noida, INDIA

Sponsored by:

Dr. H. D. Diwan

Alumni, Deptt. Of Applied Geology,

Deptt. Of Civil Engineering

NIT, Raipur, Chhattisgarh, India

ISBN : **978-93-92568-65-7**

Copyright© All Rights Reserved

No parts of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of original Publisher.

Price : Rs. **3850/-**

Publisher & Printed by:

Aditi Publication,

Opp. New Panchajanya Vidya Mandir, Near Tiranga Chowk,

Kushalpur, Raipur, Chhattisgarh, INDIA

+91 9425210308

Dedicated
To
(Our Mother Land)
BHARAT (INDIA)

CONTENTS

| | | |
|-------------|---|----------------|
| | PREFACE | |
| | CHAPTERS | |
| I. | INTRODUCTION | 1-22 |
| II. | ARCHITECTURE DESIGN AND PROCESS | 23-26 |
| III. | DIGITAL TECHNOLOGY IN ARCHITECTURE | 27-34 |
| IV. | COLLABORATIVE DIGITAL TECHNOLOGY AND VIRTUAL DESIGN STUDIO | 35-81 |
| V. | DISTANCE LEARNING AND DIGITAL TECHNOLOGY | 82-148 |
| VI. | ARTIFICIAL INTELLIGENCE AND DIGITAL TECHNOLOGY | 149-177 |
| VII. | DIGITAL TECHNOLOGY PRACTICES IN DESIGN | 178-199 |
| | REFERENCES | i-iv |

PREFACE

There is an ever increasing and changing pattern of Architectural Design and Conceptualization of Infrastructures Buildings in the Society. It requires optimum utilization of sustainable and eco-friendly designs, fast development and modernization with new technologies of computer generated systems. It can be achieved by proper understanding of fundamentals of digital architecture at beginners level of architecture study. In the present scenerio, the digital architecture comprises all aspects of digital technologies, digital platforms and features of classic architecture as online spaces. Through Seven chapters of this text book , the author's efforts have been made easy learning and understanding the complex subject matter of digital technologies utilizing computer algorithms. The book illustrates elements and features of digital technology, virtual designing studio, Artificial Intelligence (AI), Architectural Design Processes and Architectural Design Practices. It is noteworthy to mention that the eminent teacher has taken enough care and thoughtfulness in writing of this book.

I hope that the subject matters and descriptions will be useful to students, teachers and professionals working in the field of Digital Architecture.

Edition, 2024

EDITOR

Prof. (Dr.) Krishna Kumar Dhote
(NIT_Bhopal, M.P.)

Arrival of Our New Publications

MULTI DISCIPLINARY – RECENT RESEARCH BOOKS
(Peer Reviewed – Category – Valuable, Rare)

**Subject Streams – Ecology, Landscape, Geology,
Geomorphology, History, Architecture, Archaeology,
Defence Satellite Remote Sensing Image Interpretations**

**Themes – Indian heritages, Hindu Forts, Temples,
Monuments, Its Conservation & Protective Measures**

© Author: Dr. H.D. DIWAN
M.Tech (NIT) Ph.D. (WRM)
PGDRS (IIRS) DehraDun
M.A. (History), CDM,
CHR (IGNOU) New Delhi,
PGDIPR (Dr. RML NLU, Lucknow Campus)

Edited by
Prof. (Dr.) D.P. KUITY (Jiwaji Univ.)
Prof. (Dr.) D. SANYAL (NIT)
Ar. (Dr.) N.Mehrotra (G.B. Univ., Noida)
Prof. (Dr.) S.S. BHADAURIA (Pt. RSU)

- * **Ecolarch Series Vol. I – ISBN – 978-93-92568-37-4**
(Ecology, Landscape, Architecture, Archaeology)
"Researches in Eastern Coastal Forts, Monuments and Islands of
India" Author. Dr. H.D. DIWAN **Hard Bound (Price – Rs. 6250/-)**
- * **IHS Series Vol. I – ISBN – 978-93-92568-39-8**
(Indian Architecture, Geo-Engineering, Archaeology)
"Researches in Hindu Forts, Palaces and Monuments of Western
India, Gujarat" Author. Dr. H.D. DIWAN **Hard Bound (Price – Rs. 6250/-)**
- * **HISTAARC Series Vol. I – ISBN – 978-93-92568-49-7**
(Histo-Archaeology, Architecture & Culture)
"Researches in Seven Historical Forts of NCR, Haryana and Punjab"
Author – Dr. H.D. DIWAN **Hard Bound (Price – Rs. 6250/-)**
- * **GEOLHAAR Series vol. I – ISBN – 978-93-92568-48-0**
(Geomorphic Landscape, Histo-Archaeology, Architecture)
"Researches in Nine, Historical Hindu Forts of Central India"
Author - Dr. H.D. DIWAN **Hard Bound (Price – Rs. 8250/-)**
- * **GHAAD Series Vol. I – ISBN – 978-93-92568-38-1**
(Geoheritage, Histo-Archaeology, Architecture, Defence)
"Researches in Nine Ancient Hindu Forts of India"
Author – Dr. H.D. DIWAN **Hard Bound (Price – Rs. 8250/-)**
- * **RPA Series Vol. I – ISBN – 978-93-92568-92-3**
(Sustainable Smart City, Green Library and Military Architecture)
"Researches in Planning and Architecture" Author Dr. H.D. DIWAN
Hard Bound (Price – Rs. 6250/-)

N.B. – Limited Copies – Available on Demand only. T&C Apply



Aditi Publication

Opp. New Panchjanya Vidya Mandir, Near Tiranga Chowk,
Kushalpur, Dist.- Raipur-492001, Chhattisgarh
shodhsamagam1@gmail.com, +91 94252 10308

ISBN : 978-93-92568-65-7



₹ 3850