

Online Library
Earthquake
Resistant Design
Of Structures By
Pankaj Agarwal
Manish
Shrikhande
Design Of
Structures
By Pankaj
Agarwal
Manish
Shrikhande

The problem of

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Resistant Design
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Balkaj Agarwal
Manish
Shrikhande

**protecting the
built
environment in
earthquake-
prone regions
of the world
involves not
only the
optimal design
and
construction of
new facilities,
but also the**

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Balkar Agarwal
Manish
Shikhande

**upgrading and
rehabilitation of
existing
structures and
infrastructures.
The latter is a
laborious and
expensive task,
which can be
accomplished
only gradually.
However, the
inestimable**

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**loss of life and
the colossal
costs following
a major
earthquake in a
metropolitan
area provide
sufficient
reason to make
it an important
challenge for
the scientific
and technical c**

Online Library
Earthquake
Resistant Design
Community. Cont
aining papers
presented at
the Sixth
International
Conference on
Earthquake
Resistance and
Engineering
Structures, this
book will be
invaluable to
engineers,

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Earthquake
Resistant Design
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Ranjai Agarwal
Manish
Shrikhonde,
research
organizations
and
governments.
The book
encompasses a
wide range of
topics such as:

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Earthquake

Resistant Design

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Manish

Shrivastava

**Site Effects and
Geotechnical
aspects;
Earthquake
resistant
design; Seismic
Behaviour and
Vulnerability;
Structural
Dynamics;
Monitoring and
Testing;
Bridges;**

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Manish
Shukla

**Heritage
Buildings;
Masonry
Construction;
Retrofitting;
Passive
Protection
Devices and
Seismic
Isolation;
Lifelines;
Design Codes
and Response**

Online Library
Earthquake
Resistant Design
Spectre.
Earthquake-
resistant
structures are
the structures

considered to
withstand
earthquakes.
While no
structure can
be entirely
resistant to
damage from

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Resistant Design
earthquakes,
Of Structures By
the goal of eart
Ranjai Agarwal
Manish
Shukla
hquake-
resistant
building is to
create
structures that
fare better
during seismic
activity than
their
predictable
counterparts. E

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earthquake-resistant structures are envisioned to resist the largest earthquake of a certain probability that is likely to occur at their location. This means the loss

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Shukla

**of life should be
minimized by
preventing
collapse of the
buildings for
rare
earthquakes
while the loss
of functionality
should be
limited for more
frequent ones.
To be**

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Manish
Srinivande

**earthquake
proof,
buildings,
structures and
their
foundations
need to be built
to be resistant
to sideways
loads. The
lighter the
building is, the
less the loads.**

This is particularly so when the weight is higher up. They must be strong enough to take the loads. They must be tied in to any framing, and reinforced to take load in their weakest

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Manish

Shukhade

direction. They must not fall apart and must remain in place after the worst shock waves so as to retain strength for the aftershocks.

Currently, there are several design philosophies in

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Resistant Design
**earthquake
engineering,
making use of
experimental
results,
computer
simulations and
observations
from past
earthquakes to
offer the
required
performance**

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Resistant Design
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Balkar Singh
Manish
Shrikhande

**for the seismic
threat at the
site of interest.
These range
from
appropriately
sizing the
structure to be
strong and
ductile enough
to survive the
shaking with an
acceptable**

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Ranjai Agarwal
Marist
Shikhar

**damage, to
equipping it
with base
isolation or
using structural
vibration
control
technologies to
minimize any
forces and
deformations.
This book
highlights on se**

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Balkaji Agarwal
Manish
Sharma

**ismic-
resistance
design of
masonry and
reinforced
concrete
structures to be
constructed in
addition to
safety
assessment,
strengthening
and**

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Shrivastava

**rehabilitation of
existing
structures in
contrast to
earthquake
loads. This
book focuses on
earthquake-
resistant
structures,
such as,
buildings,
bridges and**

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Shrithand

engineering.

The book

provides the

contemporary

topics on recent

progress in eart

hquake-

resistant

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Shrikhande

**structures and
a helpful tool
for graduate
students,
researchers and
practicing
structural
engineers.**

**Whenever there
is an earthquak
e-related
disaster in the
news bulletin**

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Manish
Shrikhande
**with depictions
of distorted
buildings and
other
structures
dispersed all
over the place,
one may
doubtless think
that earthquak
e-resistant
design of
structures is**

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**quiet in the
dark ages.**

**Obviously, the
aim of**

**professionals
engaged in the
field of earthqu
ake-resistant
design is to
generate
several cost-
effective design
solutions to**

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Resistant Design
**make
structures less
vulnerable to
earthquakes,
even large
earthquakes.
As one of the
most
devastating
natural events,
earthquakes
impose
economic**

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Manish
Srikrishna

**challenges on
communities
and
governments.**

**The number of
human and
economic
assets at risk is
growing as
megacities and
urban areas
develop all over
the world. The**

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earthquake events have not only inflicted human and physical damage, they have also been able to cause considerable economic conflict in vulnerable cities and

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**regions. The
importance of
the economic
issues and the
consequences
of earthquakes
attracted the
attention of
engineers and
provided new
research and
working
opportunities**

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**for engineers,
who up until
then had been
concerned only
with risk
reduction
options through
engineering
strategies. This
book
`Earthquake
Resistant
Design and Risk**

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Earthquake

Resistant Design

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Manshukh

Shrikhande

Reduction is packed with the comprehensive information on recent development in earthquake-resistant structures, such as, buildings, bridges and liquid storage

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**tanks. It
contains
chapters
covering
several
interesting
research topics
written by
researchers and
experts in the
field of
earthquake
engineering.**

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Resistant Design

**The book
covers seismic-
resistance
design of
masonry and
reinforced
concrete
structures to be
constructed as
well as safety
assessment,
strengthening
and**

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loads. It will

also discuss the

factors which

will define the

success of eart

hquake-

resistant design

concepts,

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Shrikhande

**approaches and
techniques in
the coming
years. This book
is an valuable
guiding tool to
civil and
structural
practicing
engineers,
researchers and
postgraduate
students in**

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Manish
Shukhoda

**earthquake
engineering
and
engineering
seismology,
policy makers
and risk
management
officials.
Guidelines for
earthquake
resistant non-
engineered**

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Resistant Design
**construction
Of Structures By
Earthquake-
Pankaj Agarwal
resistant
Manish
Structures
Saritha
Earthquake
Resistant
Buildings
Earthquake
Resistant
Design and Risk
Reduction
Dynamic
Analyses,**

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Resistant Design
**Numerical
Computations,
Codified
Methods, Case
Studies and
Examples**

Earthquake-
resistant
design,
Structures,
Structural
design,
Seismology,

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Resistant Design
Structural
Of Structures By
systems,
Construction
systems, Hazard
prevention in
buildings,
Safety measures,
Seismic
intensity,
Plastic
analysis, Design
calculations,
Foundations,
Classification

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Earthquake
Resistant Design
systems,
Of Structures By
Subsoil,
Earthquake
Zones,

Earthquakes,
Mathematical
calculations

An earthquake is
a powerful
surface acoustic
wave (SAW)
generated by a
seismic event,
such as a

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Resistant Design

of volcano or
motion of the
Earth's layers,
that propagates
on the Earth's
surface. This
book explains
the design of
earthquake
resistant
structures using
SAW techniques
that offer a
variety of

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Rakesh Aggarwal

experimental
setups and
theoretical
models. Designs
of protecting
systems able to
dissipate or
deflect SSW
energy built
around buildings
or towns located
in earthquake
regions set this
book apart from

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Munish Arora
other seismology
publications.
Recent advances
in the
development of
high strength
materials,
coupled with
more advanced
computational
methods and
design
procedures, have
led to a new

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generation of tall and slender buildings. These structures are very sensitive to the most common dynamic loads; wind and earthquakes. The primary requirement for a successful design is to provide safety

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Bhaskar Aravind
Mallik
Shrikhande

while taking into account serviceability requirements. This book provides a well-balanced and broad coverage of the information needed for the design of structural systems for

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Manish
Shrikhande

wind- and earthquake-resistant buildings. It covers topics such as the basic concepts in structural dynamics and structural systems, the assessment of wind and earthquake loads acting on the

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Bhaskar Agrwal

system, the
evaluation of
the system
response to such
dynamic loads
and the design
for extreme
loading. The
text is
generously
illustrated and
supported by
numerical
examples and

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Of Structures By
Prabhu Agrwal
will be of great
interest to
practising
engineers and
researchers in
structural,
civil and design
engineering and
also to
architects. The
author has drawn
on his
experience as a
teacher,

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researcher and
consultant.
Of Structures By
Seismic Design
of Reinforced
Concrete
Buildings
Design, Build,
and Retrofit
Design of Wind
and Earthquake
Resistant
Reinforced
Concrete
Buildings

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Earthquake
Resistant Design
Of Structures By
Resistant
Construction
Vibration of
Buildings to
Wind and
Earthquake Loads

**It aims to
explain the
different
sources of
damage that can**

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Manish

Shrikhande

be triggered by
an earthquake
and the

conceptual
method of earth
quake-resistant
design. The

book would also
be useful for
postgraduate
students of
civil

engineering,

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practising
Of Structures By
engineers, and
Pankaj Agarwal
architects.

Base isolation
technology
offers a cost-
effective and
reliable
strategy for
mitigating
seismic damage
to structures.
The

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Resistant Design
effectiveness
Of Structures By
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Manish

Shrikhanda
demonstrated
not only in
laboratory
research, but
also in the
actual response
of base-
isolated
buildings

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Resistant Design
during
earthquakes.

Increasingly,
new and
existing
buildings in ea
rthquake-prone
regions
throughout the
world are
making use of
this innovative
strategy. In

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this expanded
and updated
edition, the
design methods
and guidelines
associated with
seismic
isolation are
detailed. The
main focus of
the book is on
isolation
systems that

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Resistant Design
use a damped
Of Structures By
natural rubber.

Topics covered
include coupled
lateral-

torsional
response, the
behavior of
multilayer
bearings under
compression and
bending, and
the buckling

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Resistant Design
behavior of
Of Structures By
elastomeric
Balkaji Agarwal
bearings. Also
Manish
featured is a
Shrikhonde
section
covering the
recent changes
in building
code
requirements.
Written for
engineers
without a

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Shrikhande

background in
seismic design.
Provides design
standards and
parameters,
explaining how
to interpret
and apply them.
Examines and
recommends
procedures to
accommodate the
enormous forces

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Resistant Design
and variations
Of Structures By
in effects
Pankaj Agarwal
common to major
Manish
earthquakes.
Shrikhande
Covers
practical
aspects of soil
behavior and
structural and
foundation
design. Gives
tips on special
construction

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Resistant Design
situations:
foundations,
dams and
retaining
walls,

strengthening
existing
structures and
construction
over active
faults.

Earthquake
Resistant

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Resistant Design
Design of
Of Structures By
Structures By
Bankaj Agarwal
Earthquake
Manish
Resistant
Shrikhande
Design of
Buildings,
Structures and
Tank Towers
Earthquake-
Resistant
Design with
Rubber
Eurocode 8,

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Resistant Design
Design of
Structures for
Earthquake
Resistance:
Assessment and
retrofitting of
buildings
Wind and
Earthquake
Resistant
Buildings

This book introduces
practising engineers

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Resistant Design
and post-graduate
students to modern
approaches to
seismic design, with a
particular focus on
reinforced concrete
structures,
earthquake resistant
design of new
buildings and
assessment, repair
and strengthening of
existing buildings.

Earthquake-resistant

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Resistant Design
Design of Structures
Of Structures By
2e is designed for
undergraduate
students of civil
engineering.

Earthquake Resistant
Design and Risk
Reduction, 2nd
edition is based upon
global research and
development work
over the last 50 years
or more, and follows
the author's series of

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Resistant Design

three books

Earthquake Resistant
Design, 1st and 2nd
editions (1977 and
1987), and
Earthquake Risk
Reduction (2003).

Many advances have
been made since the
2003 edition of
Earthquake Risk
Reduction, and there
is every sign that this
rate of progress will

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Munish Agrawal
Shrikhande

continue apace in the years to come.

Compiled from the author's wide design and research experience in earthquake engineering and engineering seismology, this key text provides an excellent treatment of the complex multidisciplinary

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Resistant Design

process of earthquake
resistant design and

risk reduction. New

topics include the

creation of low-

damage structures

and the spatial

distribution of ground

shaking near large

fault ruptures.

Sections on guidance

for developing

countries, response of

buildings to

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differential settlement
in liquefaction,
performance-based
and displacement-
based design and the
architectural aspects
of earthquake
resistant design are
heavily revised. This
book: Outlines
individual national
weaknesses that
contribute to
earthquake risk to

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people and property
Calculates the

seismic response of

soils and structures,

using the structural

continuum “Subsoil –

Substructure –

Superstructure –

Non–structure”

Evaluates the

effectiveness of given

design and

construction

procedures for

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Of Structures By

reducing casualties
and financial losses
Provides guidance on
the key issue of
choice of structural
form Presents
earthquake resistant
design methods for
the main four
structural materials –
steel, concrete,
reinforced masonry
and timber – as well
as for services

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Munish
Shrivastava
equipment, plant and
non-structural
architectural
components Contains
a chapter devoted to
problems involved in
improving (retrofitting)
the existing built
environment This
book is an invaluable
reference and guiding
tool to practising civil
and structural
engineers and

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Earthquake
Resistant Design
architects,
researchers and
postgraduate students
in earthquake
engineering and
engineering
seismology, local
governments and risk
management officials.
The architecture of
earthquake resistant
structures
Earthquake-Resistant
Structures

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Resistant Design

Design of Reinforced
Concrete Buildings for

Seismic Performance

Earthquake Resistant

Concrete Structures

Earthquake Resistant

Engineering

Structures VI

This book aims to serve
as an essential reference

to facilitate civil

engineers involved in

the design of new

conventional (ordinary)

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Resistant Design
reinforced concrete
(R/C) buildings
regulated by the current
European EC8 (EN
1998-1:2004) and EC2
(EN 1992-1-1:2004)
codes of practice. The
book provides unique
step-by-step flowcharts
which take the
reader through all the
required operations,
calculations, and
verification checks

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Of Structures By
Ranjit Agarwal

prescribed by the EC8 provisions. These flowcharts are complemented by comprehensive discussions and practical explanatory comments on critical aspects of the EC8 code-regulated procedure for the earthquake resistant design of R/C buildings. Further, detailed analysis and design examples of

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typical multi-storey
three-dimensional R/C
buildings are included to
illustrate the required
steps for achieving
designs of real-life
structures which comply
with the current EC8
provisions. These
examples can be readily
used as verification
tutorials to check the
reliability of custom-
made computer

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Of Structures By
Bhaskar Agarwal

programs and of commercial Finite Element software developed/used for the design of earthquake resistant R/C buildings complying with the EC8 (EN 1998-1:2004) code. This book will be of interest to practitioners working in consulting and design engineering companies and to

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Rakesh Agrwal
Manish
Shrikhande

advanced undergraduate
and postgraduate level
civilengineering
students attending
courses and curricula in
the earthquake resistant
designof structures
and/or undertaking
pertinent design
projects.

Earthquake engineering
is the ultimate challenge
for structural engineers.
Even if natural

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phenomena involve great uncertainties, structural engineers need to design buildings, bridges, and dams capable of resisting the destructive forces produced by them. These disasters have created a new awareness about the disaster preparedness and mitigation. Before a building, utility system,

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or transportation structure is built, engineers spend a great deal of time analyzing those structures to make sure they will perform reliably under seismic and other loads. The purpose of this book is to provide structural engineers with tools and information to improve current building and bridge design and

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construction practices and enhance their sustainability during and after seismic events. In this book, Khan explains the latest theory, design applications and Code Provisions. Earthquake-Resistant Structures features seismic design and retrofitting techniques for low and high rise buildings,

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single and multi-span
bridges, dams and
nuclear facilities. The
author also compares
and contrasts various
seismic resistant
techniques in USA,
Russia, Japan, Turkey,
India, China, New
Zealand, and Pakistan.
Written by a world
renowned author and
educator Seismic design
and retrofiting

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Resistant Design
Of Structures Tools By

techniques for all
structures Tools
improve current
building and bridge
designs Latest methods
for building earthquake-
resistant structures

Combines physical and
geophysical science
with structural
engineering

This book focuses on
the seismic design of
Structures, Piping

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Resistant Design
Systems and
Components (SSC). It

explains the basic mechanisms of earthquakes, generation of design basis ground motion, and fundamentals of structural dynamics; further, it delves into geotechnical aspects related to the earthquake design, analysis of multi degree-of-freedom

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systems, and seismic
design of RC structures
and steel structures. The

book discusses the
design of components
and piping systems
located at the ground
level as well as at
different floor levels of
the structure. It also
covers anchorage design
of component and
piping system, and
provides an introduction

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to retrofiting, seismic response control including seismic base isolation, and testing of SSCs. The book is written in an easy-to-understand way, with review questions, case studies and detailed examples on each topic. This educational approach makes the book useful in both classrooms and

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Resistant Design
professional training
courses for students,
researchers, and
professionals alike.

Structural Dynamics in
Earthquake and Blast
Resistant Design
Seismic Architecture
Criteria for Earthquake
Resistant Design of
Structures

Design of Structures for
Earthquake Resistance
Earthquake-resistant

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Resistant Design
Limit-state Design for
Of Structures By
Buildings
Bankaji Agarwal
Earthquake-
resistant
design,
Structures,
Structural
design,
Seismology,
Structural
systems,
Buildings,
Seismic

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Resistant Design
coefficient,
Of Structures By
Seismic
Pankaj Agarwal
loading,
Manish
Earthquakes,
Shrikhande,
Stability,
Repair, Design
calculations,
Mathematical
calculations,
Ductility,
Mechanical
properties of
materials,

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Strength of
Of Structures By
materials,
Bankaj Agarwal
Stiffness,
Manish
Laboratory
Shrikhande
testing,

Building
maintenance,
Concretes,
Structural
timber, Damage,
Masonry work,
Steels, Safety
measures

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Shrikhande

The costs of inadequate earthquake engineering are huge, especially for reinforced concrete buildings. This book presents the principles of earthquake-resistant

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structural
Of Structures By
engineering,
Pankaj Agarwal
and uses the
Manish
latest tools
Shrikharde
and techniques
to give
practical
design guidance
to address
single or
multiple
seismic
performance

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levels. It presents an elegant, simple and theoretically coherent design framework.

Required strength is determined on the basis of an estimated yield displacement

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Resistant Design
and desired
limits of
system
ductility and
drift demands.

A simple
deterministic
approach is
presented along
with its
elaboration
into a
probabilistic

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Manish
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treatment that allows for design to limit annual probabilities of failure. The design method allows the seismic force resisting system to be designed on the basis of

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Manish
Shrikhande

elastic
analysis
results, while
nonlinear
analysis is
used for
performance
verification.
Detailing
requirements of
ACI 318 and
Eurocode 8 are
presented.

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Manish
Shrikhande

Students will benefit from the coverage of seismology, structural dynamics, reinforced concrete, and capacity design approaches, which allows the book to be used as a

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Shrikhande

Resistant

Reinforced

Concrete

Buildings

explains wind

and seismic

design issues

of RCC

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buildings in
brief and
provides design
examples based
on

recommendations
of latest IS
codes essential
for industrial
design.

Intricate
issues of RCC
design are

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Shrikhande

discussed which
are
supplemented by
real-life
examples.

Guidelines are
presented for
evaluating the
acceptability
of wind-induced
motions of tall
buildings.

Design

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Resistant Design
methodologies
Of Structures By
for structures
Ranjai Agarwal
to deform well
Manish
beyond their
Shrikhande

elastic limits,
which is
essential under
seismic
excitation,
have been
discussed in
detail.

Comparative

Online Library Earthquake Resistant Design

discussion
including
typical design
examples using
recent British,
Euro and
American codes
is also
included.

Features:

Explains wind
and earthquake
resistant

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design issues,
balancing
theoretical
aspects and
design

implications,
in detail

Discusses
issues for
designing the
wind and
earthquake
resistant RCC

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structures
Provides
comprehensive
understanding,
analysis,
design and
detailing of
the structures
Includes a
detailed
discussion on
IS code related
to wind and

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earthquake
Of Structures By
resistant
Balkaj Agarwal
design and its
Manish
comparison with
Shrikhande
Euro, British
and American
codes Contains
architectural
drawings and
structural
drawings The
book is aimed
at researchers,

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Pankaj Agarwal
Manish
Shrikhande

professionals,
graduate
students in
wind and
earthquake
engineering,
design of RCC
structures,
modelling and
analysis of
structures, civ
il/infrastructu
re engineering.

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Manish
Shrikhande
Design of
Structures
Design of
Earthquake
Resistant
Structures

Practical
Deterministic

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Resistant Design
and
Probabilistic
Approaches
By
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This concise work provides a general introduction to the design of buildings which must be resistant to the effect of earthquakes. A major part of this design involves the

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building structure which has a primary role in preventing serious damage or structural collapse.

Much of the material presented in this book examines building structures.

Due to the recent discovery of vertical components, it

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examines not only the resistance to lateral forces but also analyses the disastrous influence of vertical components. The work is written for Practicing Civil, Structural, and Mechanical Engineers,

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Seismologists and Geoscientists. It serves as a knowledge source for graduate students and their instructors.

Introducing important concepts in the study of earthquakes related to retrofitting of

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structures to be made earthquake resistant. The book investigates the pounding effects on base-isolated buildings, the soil-structure-interaction effects on adjacent buildings due to the impact, the seismic protection of

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adjacent buildings and the mitigation of earthquake induced vibrations of two adjacent structures.

These concepts call for a new

understanding of controlled systems with passive-active dampers and semi-active dampers. The

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passive control strategy of coupled buildings is investigated for seismic protection in comparison to active and semi-active control strategies. In the last few decades, a considerable amount of experimental and

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analytical research on the seismic behaviour of masonry walls and buildings has been carried out. The investigations resulted in the development of methods for seismic analysis and design, as well as new

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technologies and construction systems. After many centuries of traditional use and decades of allowable stress design, clear concepts for limit state verification of masonry buildings under earthquake loading have

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recently been introduced in codes of practice. Although this book is not a review of the state-of-the-art of masonry structures in earthquake zones, an attempt has been made to balance the discussion on recent code requirements,

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state-of-the-art
methods of
earthquake-resistant
design and the
author's research
work, in order to
render the book
useful for a broader
application in design
practice. An attempt
has also been made
to present, in a

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condensed but easy
to understand way,
all the information
needed for
earthquake-resistant
design of masonry
buildings
constructed using
traditional systems.
The basic concepts
of limit state
verification are

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Shrikhande

presented and
equations for seismic
resistance

verification of
masonry walls of all
types of

construction,

(unreinforced,

confined and

reinforced) as well

as masonry-infilled

reinforced concrete

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frames, are addressed. A method for seismic resistance verification, compatible with recent code requirements, is also discussed. In all cases, experimental results are used to explain the proposed

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methods and equations. An important part of this book is dedicated to the discussion of the problems of repair, retrofit and rehabilitation of existing masonry buildings, including historical structures

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in urban centres. Methods of strengthening masonry walls as well as improving the structural integrity of existing buildings are described in detail. Wherever possible, experimental evidence regarding

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the effectiveness of
the proposed
strengthening
methods is given. Co
ntents:Earthquakes

and Seismic

Performance of

Masonry

BuildingsMasonry

Materials and

Construction

SystemsArchitectural

Online Library

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Resistant Building

Configuration Floors

and Roofs Basic

Concepts of Limit

States Verification of

Seismic Resistance

of Masonry

Buildings Seismic

Resistance

Online Library

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Concrete

FramesSeismic

Resistance

Verification of

Masonry

BuildingsRepair and

Strengthening of

Masonry Buildings

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Readership:
Practising engineers
and students.

Structural Seismic
Design Optimization
and Earthquake

Engineering:

Formulations and
Applications

Seismic Resistant
Design and

Technology

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General rules,
seismic actions and
rules for buildings
Eurocode-Compliant
Seismic Analysis and
Design of R/C

Buildings

Concepts,

Commentary and

Worked Examples

with Flowcharts

EARTHQUAKE

Online Library

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STRUCTURES PVT

Learning Pvt. Ltd.

Developed as a
resource for

practicing

engineers, while

simultaneously

serving as a text in

a formal classroom

setting, Wind and

Earthquake

Resistant Buildings

Online Library Earthquake Resistant Design Of Structures By

provides a
fundamental
understanding of
the behavior of
steel, concrete,
and composite
building structures.
The text format
follows, in a logical
manner, the typical
process of
designing a
building, from the
first step of

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Baskar Arjunan
Mahesh
Shrikhande

determining design loads, to the final step of evaluating its behavior for unusual effects. Includes a worksheet that takes the drudgery out of estimating wind response. The book presents an in-depth review of wind effects and outlines seismic

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Ranjit Agarwal
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design, highlighting the dynamic behavior of buildings. It covers the design and detailing the requirements of steel, concrete, and composite buildings assigned to seismic design categories A through E. The author explains

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critical code specific items and structural concepts by doing the nearly impossible feat of addressing the history, reason for existence, and intent of major design provisions of the building codes. While the scope of the book is intentionally

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broad, it provides enough in-depth coverage to make it useful for structural engineers in all stages of their careers.

Complete coverage of earthquake-resistant concrete building design
Written by a renowned seismic

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Of Structures By

Prof. Ajay Kumar

Manish

Shrikhande

engineering expert,
this authoritative
resource discusses
the theory and
practice for the
design and
evaluation of
earthquake resistant
reinforced
concrete buildings.
The book
addresses the
behavior of
reinforced concrete

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materials,
components, and
systems subjected
to routine and
extreme loads,
with an emphasis
on response to
earthquake
loading. Design
methods, both at a
basic level as
required by current
building codes and
at an advanced

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Of Structures By
Bhaskar Arjun
Mishra

level needed for special problems such as seismic performance assessment, are described. Data and models useful for analyzing reinforced concrete structures as well as numerous illustrations, tables, and equations are included in this

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Resistant Design
detailed reference.
Of Structures By
Seismic Design of
Reinforced
Concrete Buildings
Mansur
Shrikhande
covers: Seismic
design and
performance
verification Steel
reinforcement
Concrete Confined
concrete Axially
loaded members
Moment and axial
force Shear in

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beams, columns,
and walls

Development and
anchorage Beam-
column

connections Slab-
column and slab-
wall connections

Seismic design

overview Special
moment frames

Special structural
walls Gravity

framing

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Ranjit Aggarwal
Foundations
Structural Analysis
and Design
Formulations and
Applications
Earthquake
Engineering for
Structural Design
Earthquake-
Resistant Design of
Masonry Buildings
Earthquake

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Of Structures By
Bhaskar Agarwal
Many important
advances in
designing
earthquake-resistant
structures have
occurred over the
last several years.
Civil engineers need
an authoritative
source of
information that

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Manish
Shrikhande

reflects the issues that are unique to the field. Comprising chapters selected from the second edition of the best-selling Handbook of Structural Engineering, Earthquake Eng Throughout the past few years, there has been extensive

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Shukhade

research done on structural design in terms of optimization methods or problem formulation. But, much of this attention has been on the linear elastic structural behavior, under static loading condition. Such a focus has left

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Shrilhonde

researchers scratching their heads as it has led to vulnerable structural configurations. What researchers have left out of the equation is the element of seismic loading. It is essential for researchers to take

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Shrilhonde

this into account in
order to develop
earthquake resistant
real-world
structures.

Structural Seismic
Design Optimization
and Earthquake
Engineering:
Formulations and
Applications focuses
on the research
around earthquake

Online Library
Earthquake
Resistant Design
engineering, in
Of Structures By
particular, the field
Pankaj Agarwal
of implementation of
Manish
optimization
Srikhande
algorithms in
earthquake
engineering
problems. Topics
discussed within this
book include, but
are not limited to,
simulation issues for
the accurate

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Resistant Design

prediction of the
seismic response of
structures, design
optimization
procedures, soft
computing
applications, and
other important
advancements in
seismic analysis
and design where
optimization
algorithms can be

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implemented.
Readers will
discover that this
book provides
relevant theoretical
frameworks in order
to enhance their
learning on
earthquake
engineering as it
deals with the latest
research findings
and their practical

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Shrivastava

implementations, as well as new formulations and solutions.

Containing the latest research on preparation for and mitigation of future earthquakes, this book addresses an area of increasing importance to many areas around the

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world. It contains research presented at the ninth and latest in a series of biennial conferences on the topic organised by the Wessex Institute. As world population has concentrated in urban areas, we have seen the

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Resistant Design
consequences of
Of Structures By
natural disasters
Pankaj Agarwal
take an ever higher
Manish
toll in human life
Shrikhande
and property.

Adding to this trend,
earthquake activity
is being registered
in areas that were
not previously very
active, thus the
need for research
into the application

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of technological
advances to the
specific area of
earthquake
engineering. This
volume presents
those advances.
The papers cover
Seismic Isolation
and Energy
Dissipation; Building
Performance During
Earthquakes;

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Studies; Seismic

Hazard Evaluation

and Microzoning for

Structural Design;

Seismic Hazard

Assessment; Case

Studies.

Textbook of Seismic

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Design
Of Structures By
Earthquake
Balkaji Agarwal
Resistant Design for
Civil Engineering
Structures, Earth
Structures and
Foundations in
Japan

EARTHQUAKE
RESISTANT
DESIGN OF
STRUCTURES

Eurocode 8, Design

Online Library
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Resistant Design
Of Structures for
Earthquake
Resistance
Earthquake
Resistant

Engineering
Structures X

**Focusing on the
fundamentals of
structural
dynamics
required for
earthquake**

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Shrikhande

blast resistant
design,

Structural

Dynamics in

Earthquake and

Blast Resistant

Design

initiates a new

approach of

blending a

little theory

with a little

practical

Online Library

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Shrikhande

design in order
to bridge this
unfriendly gap,
thus making the
book more

structural engi
neer-friendly.

This is

attempted by

introducing the

equations of

motion followed

by free and

Online Library
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Resistant Design
forced
Of Structures By
vibrations of
Bankaj Agarwal
SDF and MDF
Manish
systems,
Shrikhande
D'Alembert's
principle,
Duhammel's
integral,
relevant
impulse, pulse
and sinusoidal
inputs, and,
most

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Manish
Shrikhande

importantly,
support motion
and triangular
pulse input
required in
earthquake and
blast resistant
designs,
respectively.
Responses of
multistorey
buildings
subjected to

Online Library
Earthquake
Resistant Design
earthquake
Of Structures By
ground motion
Balkaj Agarwal
by a well-known
Manish
mode
Shrikhande
superposition
technique are
explained.
Examples of
real-size
structures as
they are being
designed and
constructed

Online Library
Earthquake
Resistant Design
using the
popular ETABS
and STAAD are
shown. Problems
encountered in
such designs
while following
the relevant
codes of
practice like
IS 1893 2016
due to
architectural

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constraints are highlighted. A very difficult constraint is in avoiding torsional modes in fundamental and first three modes, the inability to get enough mass participation, and several

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Resistant Design
Of Structures By
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Manish
Shrikhande
others. In
blast resistant
design the
constraint is
to model the
blast effects
on basement
storeys (below
ground level).
The problem is
in obtaining
the attenuation
due to the

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Shrikhande

soil. Examples
of inelastic
hysteretic
systems where
top soft storey
plays an
important role
in expending
the input
energy,
provided it is
not below a
stiffer storey

Online Library
Earthquake
Resistant Design
(as also
required by IS
1893 2016), and
inelastic
torsional
response of
structures
asymmetric in
plan are
illustrated in
great detail.
In both cases
the concept of

Online Library
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Resistant Design
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Shrikhande
ductility is
explained in
detail. Results
of response
spectrum
analyses of
tall buildings
asymmetric in
plan
constructed in
Bengaluru using
ETABS are
mentioned.

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Shukhonde

Application of
capacity
spectrum is
explained and
illustrated
using ETABS for
a tall
building.
Research output
of retrofitting
techniques is
mentioned.

Response

Online Library
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Resistant Design
spectrum
Of Structures By
analysis using
Bankaj Agarwal
PYTHON is
Manish
illustrated
Shrikhande
with the hope
that it could
be a less
expensive
approach as it
is an open
source code. A
new approach of
creating a

Online Library
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Resistant Design

fictitious
(imaginary)
boundary to
obtain blast
loads on below-
ground
structures
devised by the
author is
presented with
an example.
Aimed at senior
undergraduates

Online Library
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Resistant Design
and graduates
Of Structures By
in civil
Pankaj Agarwal
engineering,
Manish
earthquake
Shrikhande
engineering and
structural
engineering,
this book:
Explains in a
simple manner
the
fundamentals of
structural

Online Library
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Resistant Design
dynamics
Of Structures By
pertaining to
Pankaj Agarwal
earthquake and
Manish
blast resistant
Shrikhande
design
Illustrates
seismic
resistant
designs such as
ductile design
philosophy and
limit state
design with the

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Shrikhande

use of capacity

spectrum

Discusses

frequency

domain analysis

and Laplace

transform

approach in

detail Explains

solutions of

building frames

using software

like ETABS and

Online Library
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Resistant Design
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Shrikhande

STAAD Covers
numerical
simulation
using a well-
known open
source tool

PYTHON

This is
arguably the
most
comprehensive
book on the
subject of arch

Online Library
Earthquake
Resistant Design
itectural-
Of Structures By
structural
Balkaj Agarwal
design
Manish
decisions that
Shrikrande
influence the
seismic
performance of
buildings. It
explores the
intersection
between the
architecture
and the

Online Library
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Resistant Design
structural
design through
the lens of
earthquake
engineering.

The main aim of
this unique
book, written
by renowned
engineer
M.Llunji, is to
explain in the
simplest terms,

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Resistant Design
the
Of Structures By
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Manish
Shrikhande

architecture
and structure
of earthquake-
resistant
buildings,
using many
practical
examples and
case studies to
demonstrate the
fact that
structures and

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Shrikhande

buildings react
to earthquake
forces mainly
according to
their form,
configuration
and material.

The purpose of
this book is to
introduce a new
perspective on
seismic
design, a more

Online Library
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Resistant Design
visual,
Of Structures By
conceptual and
Pankaj Agarwal
architectural
Manish
one, to both
Shrikhande
architects and
engineers. In a
word, it is to
introduce
architectural
opportunities
for earthquake
resistant-
buildings,

Online Library
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Resistant Design
treating
Of Structures By
seismic design
Pankaj Agarwal
as a central
Manish
architectural
Shrikhande
issue. A non-
mathematical
and practical
approach
emphasizing
graphical
presentation of
problems and
solutions makes

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Shrikhande

it equally
accessible to
architectural
and engineering
professionals. T
he book will be
invaluable for
practicing
engineers,
architects,
students and
researches.

.More than 500

Page 179/189

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illustrations/p

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Shukhade

Architecture

covers: •

Earthquake

effects on

structures •

Seismic force

resisting

systems •

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Advanced
Of Structures By
systems for
Pankaj Agarwal
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Shukhonde
protection • Ar
chitectural/str
uctural
configuration
and its
influence on
seismic
response •
Contemporary
architecture in

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- seismic regions
- Seismic response of nonstructural elements •
- Seismic retrofit and rehabilitation of existing buildings •
- Seismic architecture.

This

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Resistant Design
comprehensive
Of Structures By
and well-
Pankaj Agarwal
organized book
Manish
presents the
Shrikhonde
concepts and
principles of
earthquake
resistant
design of
structures in
an easy-to-read
style. The use
of these

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principles
Of Structures By
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Manish
Shrikhande

helps in the
implementation
of seismic
design
practice. The
book adopts a
step-by-step
approach,
starting from
the
fundamentals of
structural

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dynamics to
Of Structures By
application of
Pankaj Agarwal
seismic codes
Manish
in analysis and
Shrikhande
design of
structures. The
text also
focusses on
seismic
evaluation and
retrofitting of
reinforced
concrete and

Online Library
Earthquake
Resistant Design
masonry

Of Structures By
Pankaj Agarwal
Manish
Shrikhande
buildings. The
text has been
enriched with a
large number of
diagrams and
solved problems
to reinforce
the
understanding
of the
concepts.

Intended mainly

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Of Structures By
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Manish
Shrikhande

as a text for
undergraduate
and
postgraduate
students of
civil
engineering,
this text would
also be of
considerable
benefit to
practising
engineers,

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Earthquake
Resistant Design
architects,
field engineers
Pankaj Agarwal
and teachers in
Manish
the field of
Shrikhande
earthquake
resistant
design of
structures.
Structures,
Piping Systems,
and Components
Design,
Assessment and

Online Library
Earthquake
Resistant Design
Rehabilitation
Of Structures By
Pankaj Agarwal
Manish
Shrikhande