RAVINDRA KISAN SONAVANE

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PROFESSIONAL SUMMARY

6 years experience in Design and Analysis of Reinforced Concrete Structures

ACADEMIC PROFILE

Master of Technology	:	Civil Engineering (2001-2003),
SPECIALISATION	:	Structural engineering.
INSTITUTE	:	Indian Institute of Technology, Madras (IIT- Madras)
CGPA	:	CGPA of 7.75/10.0.
PROJECT TITLE	:	GAP SLAB RESPONSES OF PRECAST BEAM CONTINUOUS BRIDGES

Analysis and design of Gap Slab of Precast Bridge (Bridge span 40m) by Finite Element Modeling using SAP2000 (Structural Analysis Package) and Programming with the help of Infran and Ingrid manuals

Bachelor of Technology	:	Civil Engineering
INSTITUTE	:	Sardar Patel College of Engineering, Mumbai
PROJECT TITLE	:	STUDY OF CORROSION OF STEEL IN REINFORCED CONCRETE BEAM

SKILLS PROFILE

Operating system	:	WindowsNT/98/2000, WindowsXPProfessional2002
Software expertise	:	Structural Analysis and Design **SAP2000,** Extended 3D analysis of building systems **ETABS,** Slab analysis by finite element method **SAFE, Staad Pro-2004** Auto-CAD 2004

PROFESSIONAL EXPERIENCE

1. Assistant Manager (Technical) Since JUN 2007 till date at GAMMON INDIA LIMITED, MUMBAI, INDIA
   URL: ***www.gammonindia.com***

2. Sr. Design Engineer since August 2004 to MAY 2007 at SEMAC PRIVATE LIMITED, Hyderabad, INDIA.
   URL: *www.semacindia.com*

3. Worked as a Project Associate in Department of Civil Engineering, IIT, Madras (February 2003 -April 2003)
   Required to carry out analysis and design of Wireless loop tower using ANSYS

SEMINARS AND CONFERENCES ATTENDED

1. **International Conference on " Analysis and Design of Piles under lateral loading" at IIT Madras , April 2006**

2. **Short Course on " Non linear Seismic Analysis of Structures" at IIT Kanpur, October 2006**

PROJECTS CARRIED OUT AT SEMAC

- **CHANDRAMOHAN'S RESIDENTIAL BUILDING**
- **SECURITY MANAGEMENT BLOCK (OFFICE BUILDING)**
- **PARK HOTEL**
- **MISSILE STORAGE BLOCK (MSB)**
- **TRAIN STORAGE BLOCK (TSB)**
- **STORAGE AND INTEGRATION FACILITY- ARMOURED ROOM**
- **AREVA INDUSTRIAL STRUCTURE**

1. Project title : CHANDRAMOHAN'S RESIDENTIAL BUILDING

Client : PRAJAY ENGINEERS LIMITED

Storey : G +2

Foundation system : Isolated Footings

Analysis:-

The above Building is being modeled and analysed using Extended 3D analysis of building systems ETABS. The modeled space is analysed for Dead loads (DL), Live loads (LL), Seismic loads (EQ), their combinations and designed for limit states of serviceability and collapse as per IS: 1893-2002.

Design:-

All the structural elements are designed as per IS: 456-2000 using the fundamentals of **Limit State Method.** All corresponding parameters are input through ETABS. Design of beams and columns are taken from ETABS output and design of slabs and foundations are manually designed using MS-Excel. All foundations are designed and checked for both one way and two-way shears. Slabs are designed and checked for deflection with the appropriate L/d ratios and Modification factors.

***Detailing*:-**

All the structural elements are detailed as per SP-34 using the fundamentals of IS: 456-2000.
Proper curtailments details are followed to get the economy and easiness of construction at site.

2. Project title : SECURITY MANAGEMENT BLOCKS
(OFFICE BUILDING)

Client : DRDO, Hyderabad

Storey : G+2

Foundation system : Isolated Footings

Analysis:-

The above Building is being modeled and analysed using Extended 3D analysis of building systems **ETABS**. **The modeled space is analysed for Dead loads (DL), Live loads (LL), Seismic loads (EQ) and designed for limit states of serviceability and collapse as per IS: 1893-2002**.

Design:-

All the structural elements are designed as per IS: 456-2000 using the fundamentals of **Limit State Method.** All corresponding parameters are input through **ETABS**. Design of beams and

column are taken from ETABS output, design of slabs and foundations are manually designed using MS-Excel. All foundations are designed and checked for both one way and two-way shears. Slabs are designed and checked for deflection with the appropriate L/d ratios and Modification factors.

***Detailing*:-**

All the structural elements **are detailed as per IS: 1893-2002 (ductile detailing code for earthquake) and SP-34 using the fundamentals of IS: 456-2000.**

Proper curtailments details are followed to get the economy and easiness of construction at site.

3. Project title : Missile Storage Block (MSB)

Client : DRDO, Hyderabad

Storey : Ground Block

Number of block : 3 nos.

Special structure : Complete structure is covered with Earth filling

The block has been analyzed and Design for Pile Foundation

Analysis: -

The above Building is being analysed for **BLAST DYNAMICS** and modeled using Structural Analysis and Design package **SAP2000**. The modeled frame is analysed for **Dead loads (DL), Live loads (LL), Earth loads (EL), Seismic loads (EQ) and Blast loads.**

Design: -

All the structural elements are analysed and designed manually as per IS: 4991-1968; TM-5-1300 for blast resistant structures and also as per SAP Analysis output using IS: 456-2000 with fundamentals of **Limit State Method.** The results are checked for consistency and the design adopted is for maximum stress resultants.

***Detailing*: -**

All the structural elements are detailed as per TM-5-1300 & SP-34 using the Fundamentals of IS: 4991-1968; IS: 1893-2002and IS: 456-2000

4. Project title : Train Storage Block (TSB)

Client : DRDO, Hyderabad

Storey : Ground Block

Number of block : 2 nos.

Special structure : Complete structure was covered with Earth filling
The block has been analyzed and Design for Pile Foundation

Analysis: -

The above Building is being analysed for **BLAST DYNAMICS** and modeled using Structural Analysis and Design package **SAP2000**. The modeled frame is analysed for **Dead loads (DL), Live loads (LL), Earth loads (EL), Seismic loads (EQ) and Blast loads.**

Design: -

All the structural elements are analysed and designed manually as per IS: 4991-1968; TM-5-1300 for blast resistant structures and also as per SAP Analysis output using IS: 456-2000 with fundamentals of **Limit State Method.** The results are checked for consistency and the design adopted is for maximum stress resultants.

***Detailing*: -**

All the structural elements are detailed as per TM-5-1300 & SP-34 using the Fundamentals of IS: 4991-1968; IS: 1893-2002and IS: 456-2000.

TSB & MSB Block were having Earth Retaining wall 30m long with height 9m, the wall has provided counter fort 3.75m spacing. Thus wall has analyzed and designed as Counter fort Retaining using SAP2000.

5. Project title : Storage and Integration Facility, Armoured Room

Client : DRDO, Hyderabad

Storey : Ground Block

Analysis: -

The above Building is being analysed for **INTERNAL BLAST PRESSURE**

DYNAMICS and modeled using Structural Analysis and Design package SAP2000.The modeled frame is analysed for Dead Load and Internal Blast pressure and Designed for Blast resistance as per IS: 4991-1968.

Design: -

All the structural elements are analysed and designed manually as perIS:4991-1968; TM-5-1300 for blast resistant structures and also as per SAP Analysis output using IS: 456-2000 with fundamentals of **Limit State Method.** The results are checked for Consistency and the design adopted are for maximum stress resultants.

***Detailing*: -**

All the structural elements are detailed as per TM-5-1300 & SP-34 using the fundamentals of IS: 4991-1968; IS: 1893-2002and IS: 456-2000.

6. Project title : PARK HOTEL

Client : Lake Plaza Hotels Limited

Storey : G+9 with three basements

Plan for first floor to eight floors was same.

Analysis:-

The above building is being modeled and analysed using Extended 3D analysis of building systems **ETABS**. The modeled space is analysed for Dead loads (DL), Live loads (LL), Seismic loads (EQ) and designed for limit states of serviceability and collapse as per IS: 1893-2002 .

Design:-

In addition to the designs mentioned in the above projects, **Flat Slabs** are designed manually using ETABS output results. The **design of flat slab and the Raft for the foundation is carried out by using SAFE slab analysis**.

***Detailing*:-**

All the structural elements are detailed as per SP-34 using the fundamentals of IS: 456-2000. Proper curtailments details are followed to get the economy and easiness of construction at site

7. Project title : AREVA OFFICE BUILDING

Client : AREVA INDIA LTD.

Admin block with G+3 storey having Flat slab System

Analysis:-

The above Building is being modeled and analysed using Extended 3D analysis of building systems ETABS. The modeled space is analysed for Dead loads (DL), Live loads (LL), Seismic loads (EQ), their combinations and designed for limit states of serviceability and collapse as per IS: 1893-2002.

Design:-

All the structural elements are designed as per IS: 456-2000 using the fundamentals of **Limit State Method,** using **ETABS**.Slabs are designed and checked for deflection with the appropriate L/d ratios and Modification factors.

Flat Slabs are designed manually using ETABS output results. The design of **flat slab is also carried out by using SAFE slab analysis.**

***Detailing*:-**

All the structural elements are detailed as per SP-34 using the fundamentals of IS: 456-2000. Proper curtailments details are followed to get the economy and easiness of construction at site.

PERSONAL DETAILS

Father's name	: LATE KISAN VITHAL SONAVANE
Date of Birth	: 21 OCTOBER 1973
Sex	: Male
Marital Status	: Married
Languages known	: English, Hindi, Marathi
Permanent Address	: 'Susmitham'Chittur college post, Palakkad, Kerala-678104
Correspondence	: B-51, OM Pushpanjali,opp. Poisar Gymkhana, Bursapada road Kandivali (west) Mumbai-400067

REFERENCES

1. Dr. V. Kalyanaraman,
   Professor
   Department of Civil Engineering
   Indian Institute of Technology, Madras
   Chennai-600036
   Email: kalyan@iitm.ac.in

2. Dr. A. Meher Prasad

   Associate Professor
   Department of Civil Engineering
   IIT Madras, Chennai - 600 036.

3. N.S Rajendran

   DIRECTOR
   Semac Private Limited

Hyderabad

4. D. P. Chopdekar

   Vice President
   Semac Private Limited, Hyderabad