



January 2021

Department of CIVIL Engineering

# STHAPATYA

Celebrating 72th Republic Day

## Departmental Vision and Mission:

### Vision:

To provide diploma education strengthened with basic knowledge and skills along with professional ethics enabling students to reach higher goals in the field of civil engineering.

### Mission:

1. To impart value based technical education enriched by knowledge, professional ethics and skills in civil engineering.
2. To develop the technical knowledge of student.
3. To offer the students various skill sets in civil engineering.
4. To motivate students for lifelong learning.

## ABOUT DEPARTMENT

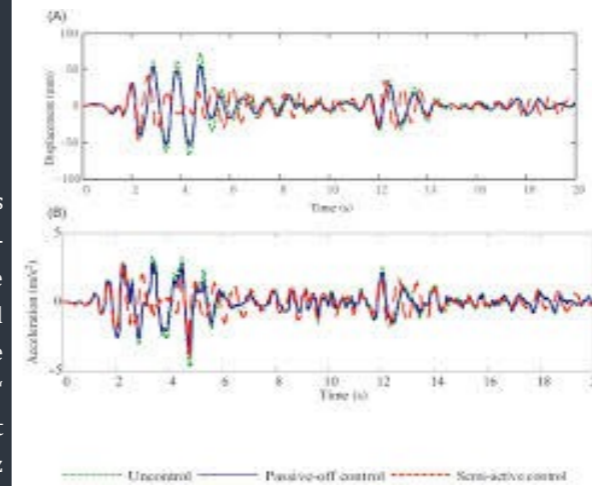
Civil Engineering Departments had been start in 2009, with intake of 60. Our departments have 6 well-equipped laboratories and 8 well qualified teaching staff. We have established the association "Talent hunt" in which we conduct various activities like Quiz competition, Power point presentation, CADD Race, Bridge design Poster presentation, etc. This departments have organized various expert on Concrete Technology, Surveying, Water resource Engg. for the overall development of students. This type of activities are used to get better result in academic and overall development of students.

Mr.N.A.Shinde  
HOD CIVIL

Student Coordinator  
Mr.Pranav Tikate  
(TYCE)

CIVIL  
Dept. OF CIVIL

## DYNAMIC RESPONSE IN STRUCTURAL ENGINEERING



Structural analysis is mainly concerned with finding out the behaviour of a physical structure when subjected to force. This action can be in the form of load due to the weight of things such as people, furniture, wind, snow, etc. or some other kind of excitation such as an earthquake, shaking of the ground due to a blast nearby, etc. In essence all these loads are dynamic, including the self-weight of the structure because at some point in time these loads were not there. The distinction is made between the dynamic and the static analysis on the basis of whether the applied action has enough acceleration in comparison to the structure's natural frequency. If a load is applied sufficiently slowly, the inertia forces (Newton's first law of motion) can be ignored and the analysis can be simplified as static analysis. Structural dynamics, Therefore, type of structural analysis which covers the behaviour of structures subjected to dynamic loading.

Dynamic loads include people, wind, waves, traffic, earthquakes, and blasts. Any structure can be subjected to dynamic loading. Dynamic analysis can be used to find dynamic displacements, time history, and modal analysis. A dynamic analysis is also related to the inertia forces developed by a structure when it is excited by means of dynamic loads applied suddenly (e.g., wind blasts, explosion, earthquake). A static load is one which varies very slowly. A dynamic load is one which changes with time fairly quickly in comparison to the structure's natural frequency. If it changes slowly, the structure's response may be determined with static analysis, but if it varies quickly (relative to the structure's ability to respond), the response must be determined with a dynamic analysis.

By Ms.S.D.Patil

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*"We shape our building thereafter they shape us."*

### EDITORIAL

It gives us great pleasure to present the 2nd volume and first issue of our departmental newsletter "Sthapatya", which gives us the opportunity to focus the achievements in our department and new trends in Civil Engineering.

I am thankful to all the students and faculties who have contributed during the preparation of this newsletter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this newsletter.



## VACCU CONCRETE

Vacuum concrete is concrete in which the excess water is removed for improving concrete strength. The water is removed by use of vacuum mats connected to a vacuum pump. Vacuum process of concreting enables to meet this conflicting demand. This process helps a high strength. The concrete problem include the presence of excess pores and the water in it. This affects the strength, durability and workability of the concrete. This can be rectified by vacuum concrete method. The method of removing the water in it is vacuum hydro extracting construction method and it is operated with a vacuum mat, vacuum pump, water separator, filtering pad and screen board vibrator. Review of paper shows that 5 to 25% of strength increased when compared with conventional concrete.

By Mr. A.H.Kalubarme





## JOB OPPORTUNITIES FOR CIVIL ENGINEER

Private Sectors & Government Sector:

WRD,WCD,PWD,CPWD,Zilla parishad, Municipal Corporations, Jal Boards, Delhi Development Authority, New Delhi Municipal Corporation, Metro Rail, National Highway Authority of India, Indian Oil Corporation, Delhi State Industrial Development Corporation, Public Works Department, Central Public Works Department, Border Roads Organization, Military Engineering Services, Airport Authority of India, Indian Air Force, Railways, Irrigation & Flood control department, Public Health Engineering department, National Hydro-electric Power Corporation, National Thermal Power Corporation, Oil and Natural Gas Corporation Limited, Defence Research and Development Organisation, RITES, DRDO, Pollution Control Boards, Building and Construction department of organizations and the list is endless.

## SUSPENSION BRIDGE:

Suspension bridge is a type of bridge which has cables between towers (so called “suspension cables”) and from them vertical “suspender cables” (or hangers”) that hold the deck. Suspension cables are anchored at each end of the bridge and they carry the majority of the load.

Suspension bridges, as we know them today and of which the first modern examples were built in the early 19th century, actually evolved from the “simple suspension bridges”.

These bridges are one of the oldest types made by man. They have load-bearing cables but don’t have towers. Earliest versions of suspension bridges were built by Thangtong Gyalpo, Tibetan saint and bridge-builder (among other things) from the 15th century. He built over 58 iron chain suspension bridges around Tibet and Bhutan and one of his bridges survived until 2004 when it was destroyed by a flood. Most of his bridges had chains as suspension cables while his early bridges used ropes from twisted willows or yak skins.

The first design of a suspension bridge that is similar to today's modern designs appeared in book “Machinae Novae” from 1593 which was written by Venetian polymath Fausto Veranzio. He also has designs in his book for a timber and rope suspension bridge, and a hybrid suspension and cable-stayed bridge using iron chains.

By Mr.R.J.Salunke

## DEPARTMENTAL ACHIEVEMENTS IN ACADEMIC YEAR 2019-20

### FACULTY

Sr. No	Name of Staff	Qualification	Designation
1.	Mr. N.A.Shinde	M.E. (Structure)	HOD
2.	Ms.S.C.Bagal	M.Tech (Structure)	Lecturer
3.	Ms. Lachyan P.S	M.Tech (Structure)	Lecturer
4.	Mr.A.H.KAlubarme	B.E(Civil)	Lecturer
5.	Mr. Salunke R.J	B.E(Civil)	Lecturer
6.	Mr.H.D.Aiwale	B.E(Civil)	Lecturer
7.	Ms.S.D.Patil	B.E(Civil)	Lecturer

- Four staff of our department are pursuing ME/M.Tech & Three staff have completed ME in Structural Engg.

- All staff are involved Consultancy in various field.

- Publication Forecasting of Reservoir yield capacity by selecting different climatic parameters.

-A.H.Kalubarme

## SOFTWARE USED FOR CIVIL

- Autocad
- Staad-Pro
- Revit
- 3D-Max
- Q-E Pro
- Calculator
- Microsoft project
- Watercad
- Watergems



## DEPARTMENTAL RESULT FOR A.Y. 2019-20

SR. NO.	NAME OF STUDENT	% MARKS	CLASS
1	MS. BABAR HARSHALI	96.68	1 <sup>ST</sup> YEAR
2	MS.MORE ASMITA	96.04	1 <sup>ST</sup> YEAR
3	MR.LONDHE TULSHIDAS	95.97	1 <sup>ST</sup> YEAR
1	MSGODAGE SHARVARI	97.53	2 <sup>ND</sup> YEAR
2	MS. LOKHANDE A. A	96.13	2 <sup>ND</sup> YEAR
3	MR.WAGHMODE AMOL	96.00	2 <sup>ND</sup> YEAR
1	MR.BHOGAUKAR A. N.	99.67	3 <sup>RD</sup> YEAR
2	MR. PIMPALE M. B.	99.67	3 <sup>RD</sup> YEAR
3	MS. BODAKE SAKSHI	98.89	3 <sup>RD</sup> YEAR