


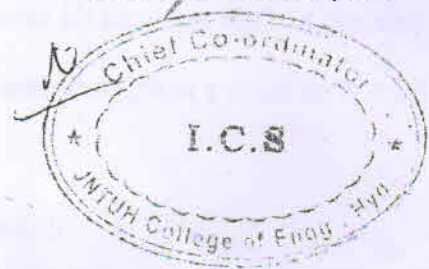
STRUCTURAL STABILITY CERTIFICATE

On the basis of visual inspection and the results of the Non-destructive Tests performed on the building of "Sultan-Ul-Uloom Public School", "Mount Pleasant", 8-2-249 to 267, Road No. 3, Banjara Hills, Hyderabad, Telangana State, it is found that the existing structure is safe and stable and fit for its intended occupation. However the structure should be periodically inspected for structural stability. Visual inspection shows that the condition of the building is satisfactory. No major distress or loss of structural integrity was observed. Until no major problems are noticed in the structure, it is suggested that structural evaluation should be carried out after 5 years to detect any deterioration if any.

Date : 23.07.2019


HONY. SECRETARY
Sultan-ul-uloom Education Society
"Mount Pleasant", 8-2-249 to 267,
Road No:3, Banjara Hills,
Hyderabad-500 034, T.S. India.


Chief Co-ordinator, ICS.



To
The Principal,
Sultan-UI-Uloom Public School,
"Mount Pleasant", 8-2-249 to 267,
Road No. 3, Banjara Hills,
Hyderabad 500034, Telangana State.,

Lr.No.: JNTUH/CEH/CIVIL/STR
/6575/C-4031/2019
Date: 23.07.2019
Receipt No.14817

Sir,

Sub:- JNTUHCEH-CIVIL-ICS-STRUCTURAL STABILITY REPORT FOR SULTAN-UI-ULOOM PUBLIC SCHOOL, ROAD.NO.3, BANJARA HILLS, HYDERABAD-REPORT FURNISHED-REG.

Ref:- Your Lr.No.: ---Nil---, dated 12.07.2019

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As desired in the letter cited above, for issuing the structural stability report and certificates of the building "Sultan UI-Uloom Public School" "Mount Pleasant", 8-2-249 to 267, Road No. 3, Banjara Hills, Hyderabad 500034, Telangana State. The Non-Destructive Testing (NDT) of RCC Columns and Beams was conducted on 20.07.2019. The estimated values of the compressive strength are based on the NDT using rebound hammer and Ultra-Sonic Pulse Velocity tests at the location of the construction site. The estimated values of the compressive strength of the concrete are subjected to the limitations inherent in the above two methods of NDT.

As per IS 13311 the estimation of likely strength of concrete by adopting NDT of concrete is only approximate. Probable accuracy of prediction of concrete strength in a structure is ± 25 percent.

The test reports and stability certificates are enclosed herewith.

Yours faithfully,

Encl : Test Results


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STRUCTURAL STABILITY REPORT FOR "SULTAN UL-ULOOM PUBLIC SCHOOL", ROAD.NO.3, BANJARA HILLS, HYDERABAD

1. INTRODUCTION:


On request from The Principal, Sultan Ul-Uloom Public School, Banjara Hills, Hyderabad, site inspection of the premises situated at "Sultan Ul-Uloom Public School", Banjara Hills, Hyderabad, was carried out by experts of JNTUHCEH, namely Dr.K.Rama Mohan Rao & Dr P.Srinivasa Rao, Professors of Civil Engineering on 20.07.2019.


The experts along with their team have conducted Non Destructive testing of the building and the following observations are made.

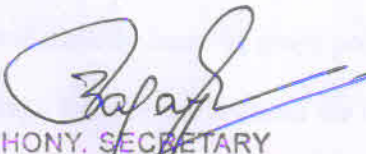
2. PHYSICAL OBSERVATIONS:

1. There are no visible signs of structural cracks or distress.
2. There are no visible signs of dampness in the walls or slabs.


Faculty Incharge


Asst./Assoc./Professor


Chief Co-ordinator, ICS


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SULTAN UL-ULOOM PUBLIC SCHOOL



The building is constructed prior to 1954 (as informed) and the roof consists of RCC framed structure. *in 1994 Jh.*

3. Non-Destructive tests carried:

The following Non-Destructive Tests were conducted to ascertain the present health of the structure.

- a. Rebound Hammer Tests
- b. Ultra-Sonic Pulse Velocity Tests

The results and observations of various test results are enclosed as under:

a. Rebound hammer test:

Rebound hammer test is done to find out the compressive strength of concrete by using rebound hammer as per IS: 13311 (Part 2) – 1992. The underlying principle of the rebound hammer test is as follows:

The rebound of an elastic mass depends on the hardness of the surface against which its mass strikes. When the plunger of the rebound hammer is pressed against the surface of the concrete, the spring-controlled mass rebounds and the extent of such a rebound depends upon the surface hardness of the concrete. The surface hardness and therefore the rebound is taken to be related to the compressive strength of the concrete. The rebound value is read from a graduated scale and is designated as the rebound number or rebound index. The compressive strength can be read directly from the graph provided on the body of the hammer.

The typical graph for rebound hammer for the 3 directions of testing is given below:

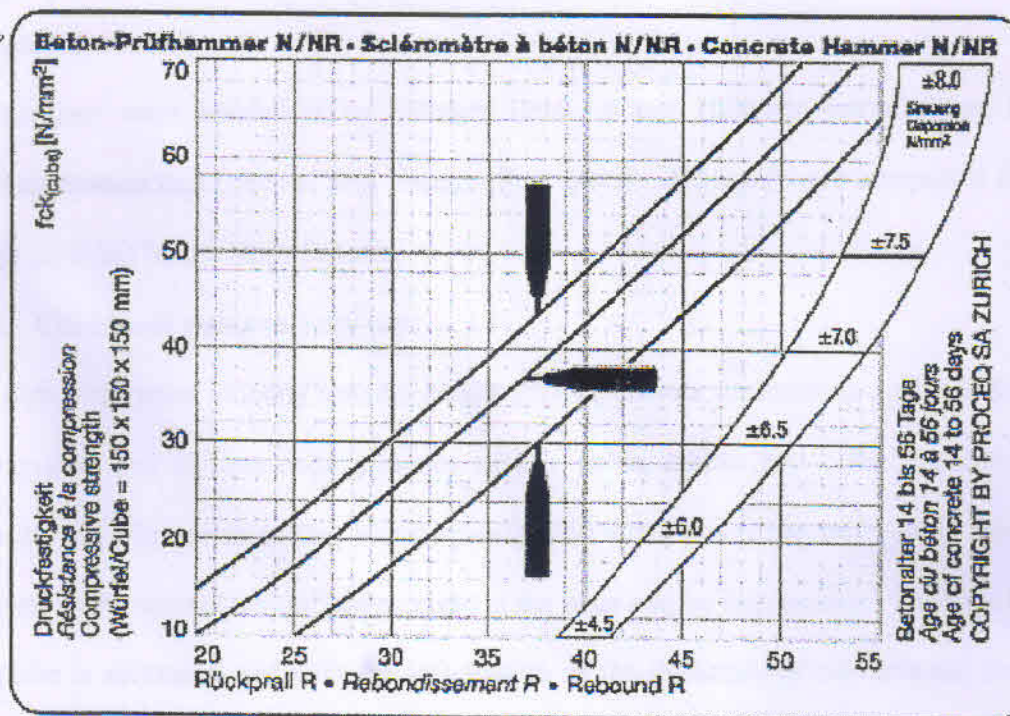
[Signature]
Faculty Incharge

[Signature]
Asst./Assoc./Professor

[Signature]
Chief Co-ordinator, ICS

[Signature]
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Depending on the direction of testing the estimated compressive strength is calculated from the respective graph.

In case of columns and beams the testing is carried out by placing the Rebound hammer horizontally (perpendicular to the face of concrete) and in case of slabs (when tested from bottom) the Rebound Hammer is placed vertically upwards. Respective graph is used to ascertain the compressive strength of concrete

Interpretation of results: Normally a minimum of 10 results are taken on a particular member at a specified location. The rebound hammer readings (called "R Value") are tabulated member wise.

The average of each group is first calculated. In case any particular R value in the group varies by more than 5 units, the said values are discarded and then the Average R Value is calculated.

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SULTAN-
 Education Society



With the average R value and Ultrasonic Pulse Velocities the strength and quality of concrete is estimated.

The tests were conducted by Schmidt Rebound test Hammer manufactured by M/s Schmidt, Switzerland (year of manufacture: Sept 2009). All results are interpreted from the graphs provided by the Manufacturer.

b. Ultra sonic pulse velocity test:

Ultra-Sonic pulse velocity tests are conducted on Concrete structures to qualitatively access the concrete and to determine presence of any voids, cracks and other imperfections in concrete. In Ultra-sonic testing low frequency ultra sonic waves are transmitted through the concrete by the transmitter and are received at the other end by the receiver. The time taken by the pulse is measured and with the information of the thickness of concrete the instrument provides the velocity of the sound wave in km/sec or m/sec. Based on the Pulse Velocity the quality of concrete is classified as per IS Code: 13311 (Part 1) – 1992. The classification as per IS code is as under:

Classification as per IS 13311 part 1		
	Pulse Velocity (km/sec)	Concrete Quality grading
1.	Above 4.50	Excellent
2.	3.5 - 4.5	Good
3.	3.0 - 3.50	Medium
4.	Below 3.0	Doubtful

UPV results provide the information on quality of the core concrete.

The results of the Rebound hammer test and Ultrasonic Pulse Velocity test conducted on the various structural elements of the buildings are enumerated below:

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NON DESTRUCTIVE TEST RESULTS

	Location	Ultrasonic Pulse-velocity (km/sec)	Average Rebound Hammer Number	Equivalent Compressive Strength (N/mm ²)	Quality of Concrete	Comments of Third party Quality Control
SULTAN-UI-UIOOM-PUBLIC SCHOOL-GROUND FLOOR						
1.	Corridor beam	3.647	30	28	GOOD	Acceptable
2.	Slab	3.307	30	27	MEDIUM	Acceptable
3.	Column	4.249	29	29	GOOD	Acceptable
4.	Column	3.372	30	27	MEDIUM	Acceptable
SULTAN-UI-UIOOM-PUBLIC SCHOOL -FIRST FLOOR						
1.	Column	3.733	32	32	GOOD	Acceptable
2.	Slab	3.214	34	33	MEDIUM	Acceptable
3.	Beam in Classroom VID	3.754	33	34	GOOD	Acceptable
4.	Column Class- X D	3.606	36	40	GOOD	Acceptable
SULTAN-UI-UIOOM-PUBLIC SCHOOL -SECOND FLOOR						
1.	Beam in Seminar Hall Room.No.301	3.642	37	41	GOOD	Acceptable
2.	Column	3.480	35	38	MEDIUM	Acceptable
3.	Slab	3.530	33	33	GOOD	Acceptable

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