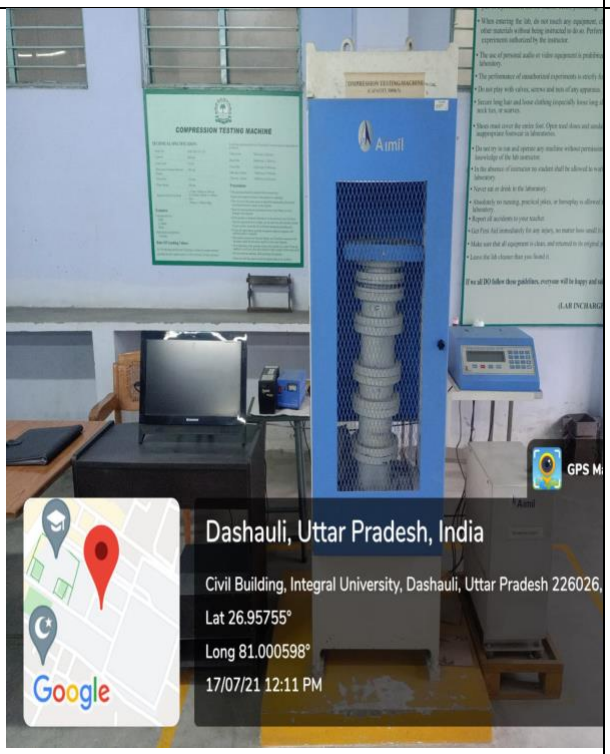
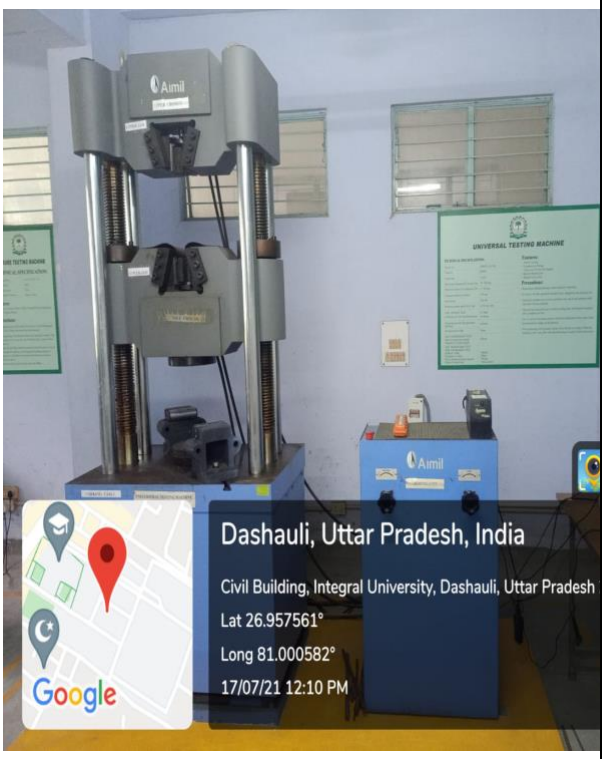
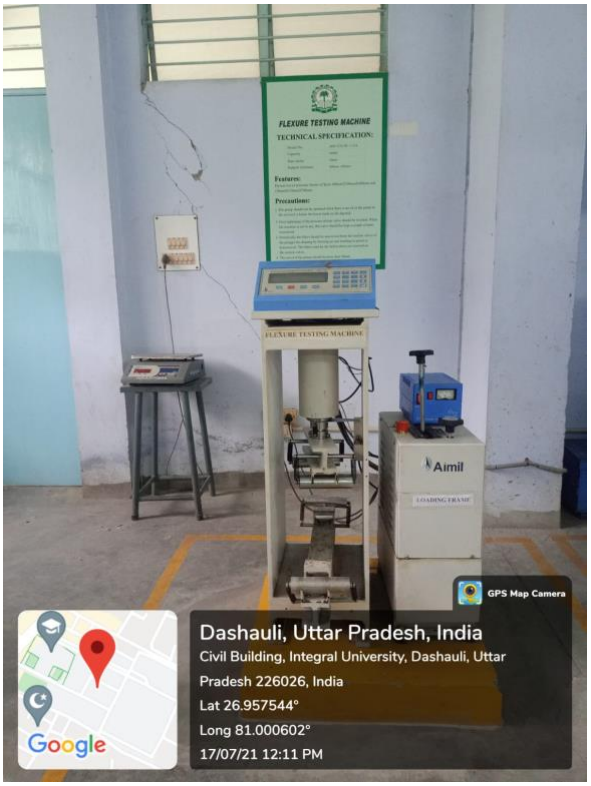
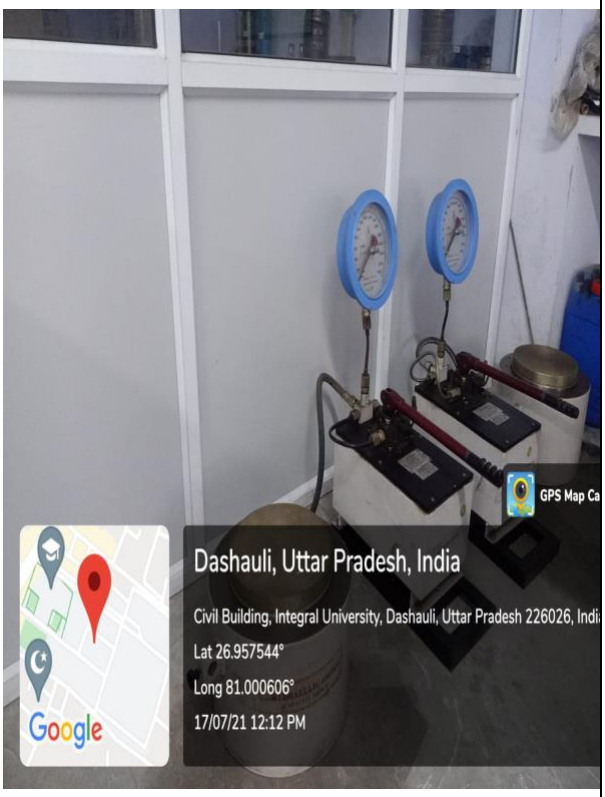
Department of Civil Engineering
Integral University, Lucknow

ADVANCED MATERIAL TESTING LAB

Advance material testing lab has been established in 2016 to support and strengthen ongoing research and testing activities of the department of civil engineering. Thrust area of this lab are to investigate different material properties such as tensile strength of rebar and cables, compressive strength of concrete cube & cylinder, aggregates and bricks and flexural strength of beam members etc. The detailed description of the equipment are listed below.

S.No	Machine	Image	Description
1.	**Compression Testing Machine (Computerized)**		**Manufacturer: Aimil Ltd.** **Capacity: Upto 3000kN** Compression test machines (CTM) are used to determine a material's strength under applied crushing loads and are usually conducted by applying compressive pressure to a test specimen with compression platens. It has provision for automatically turning the pump on and off, controlling the set pace rate/displacement rate and switching the machine off under predetermined conditions.

2.	**Universal Testing Machine (Computerized)**		**Manufacturer: Aimil Ltd.** **Capacity: Upto 1000kN** Universal Testing Machine is designed for testing metals under tension, compression, bending, both in the form of test pieces and as finished product. It is also designed for testing the compressive and flexural strength of several construction material and members. The load is applied by a hydrostatically lubricated ram. The cylinder in turns receives pressure from the power jack. The load is transmitted to the test specimen and is displayed by a separately housed load indicator.
3.	**Flexural Testing Machine**		**Manufacturer: Aimil Ltd.** **Capacity: Upto 100 kN** The Flexure Strength Testing Machines are designed to test flexural strength of concrete beams. The design provide maximum rigidity throughout their working range. The load is applied by the downward movement of the piston. A spacer is provided for testing different size of beams. The load is indicated on a calibrated bourdon tube type load gauge of range 0-100 kN

4.	**Hydraulic Jack**		**Manufacturer: Aimil Ltd.** **Capacity: Upto 3000 kN** Hydraulic Jacks have multipurpose utility such as application of loads while engaged in field investigation, determination of load carrying capacity of piles in the field, tensioning of wires in pre-stressed structures, loading of members of any structure for deformation characteristics etc. The jacks are supplied complete with manually operated pumping units fitted with bourdon tube type load gauge and high pressure flexible hose pipe. All the jacks have a piston travel of 50 mm and jacks up to 1000 kN capacity are provided with retraction springs.