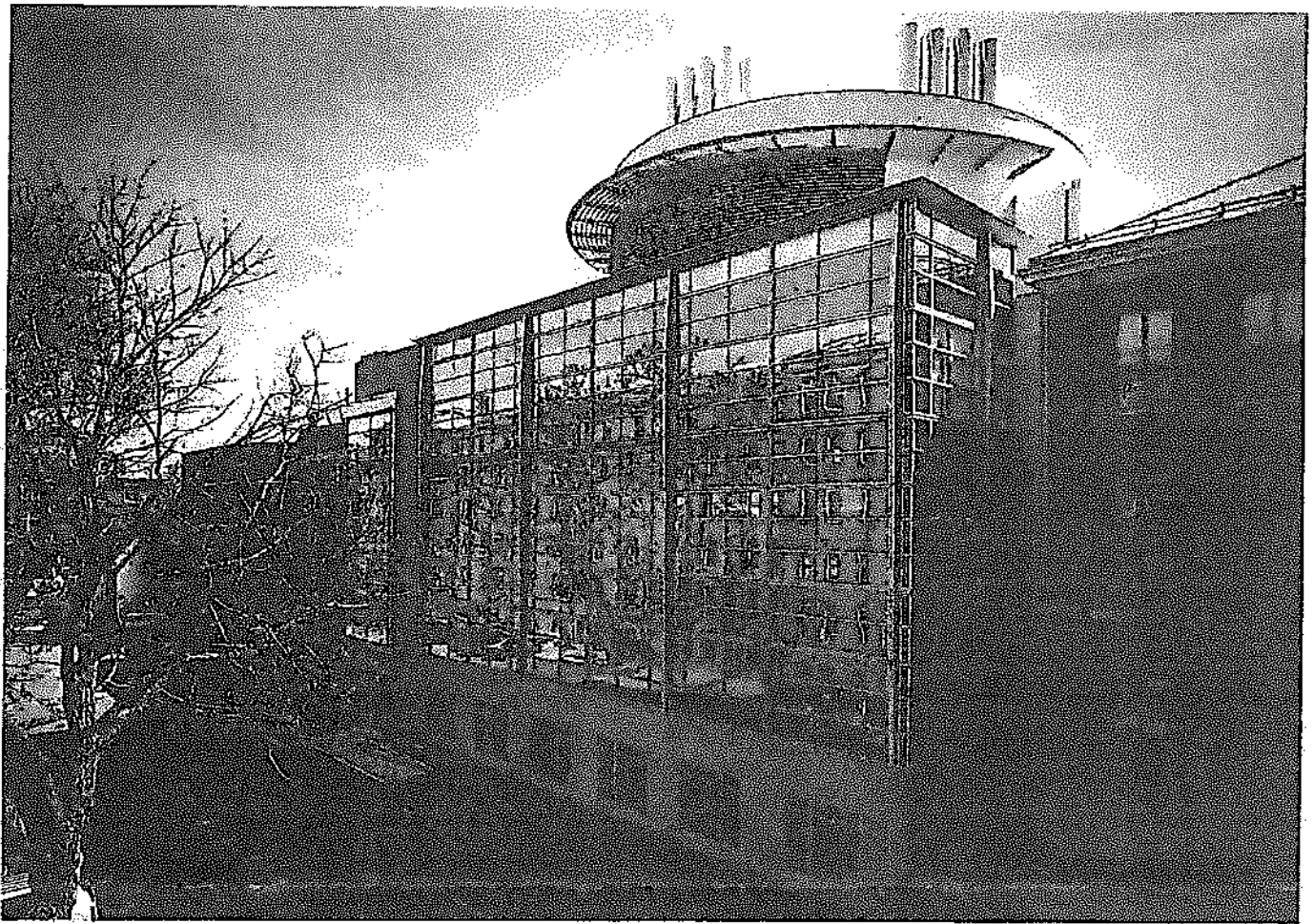


DOMANDA 1

Il/La candidato/a descriva la metodologia sperimentale per prove statiche di compressione diagonale nel piano di pannelli murari secondo le normative tecniche vigenti, indicando la strumentazione idonea per la misura degli spostamenti e/o deformazioni, la procedura di applicazione dei carichi, l'analisi dei risultati.

Accertamento lingua inglese ed abilità informatiche

- Il candidato legga ed esponga in italiano il significato del Testo in lingua inglese indicato con la lettera A.
- Nel file Excel, data la serie numerica riportata in colonna, calcolare - adottando le funzioni del foglio elettronico - il valore medio.



AThe design is for a university building and future extension, planned to be completed next year. It is situated in one of the true landmarks of academic America: the urban suburbs of Cambridge, Massachusetts, home of the famous Harvard campus, just a few miles from Boston.

As has already been mentioned, this is a two-stage project: the first phase, completed just last year, involved the construction of the Naito Chemistry Building, an integral part of the much larger Cabot Science Complex; the second phase, currently under completion, is for the Life Sciences Building (LSB), designed to meet the Department of Chemistry's growing needs based on increasing interdisciplinary scientific co-operation, and whose building expansion programme actually began back in the early Seventies.

The two-stage university complex design was placed in the hands of Ellenzeig Associates from Boston (www.ellenzeig.com), whose internet site is dedicated to these buildings.

C Here are some of the facts: the entire complex, once completed, will be able to host multi-purpose spaces - science laboratories, offices, conference rooms, and exhibition areas - covering a total of approximately 40,000 square metres at an overall cost of 25 million dollars.

D The two buildings stand in a highly urbanised area featuring a collection of rather dishevelled building complexes. The design is based on the idea of drawing a smoothly knit architectural curtain (already mainly completed) around a quasi-urban block holding other buildings and some green landscaping, the Cabot Science Courtyard.

E The rather intricate building programme has been handled with great delicacy: on one hand the layout of the outside front is respected, and on the other the connections with existing buildings allow both visual and physical access to the spaces on the urbanised lot.

F This is almost like a surgical operation on the cityscape, whose success derives from the way the new construction fits into the existing context.

The building materials are red sandstone, metal and glass, used in just the right proportions to create a certain continuity and balance with the image of the surrounding neighbourhood. At the same time, though, the new building seems capable of constituting a significant landmark on its immediate surroundings: its wide glass surfaces contrast with the introverted nature of the buildings in its immediate vicinity, and the circular crown on the roof, designed to hold technical structures, gives the Naito Chemistry Building its own unique image.

H The interiors of the Naito Chemistry Building are geared to maximum flexibility (obtained by the clever layout of the structural support columns and the positioning of users and services), required not just to host a range of very different functions, but also to ensure it can adapt to future uses.

T Careful attention has also been paid to the design of the communal parts, the entrance lobby, and the locating of pedestrian paths capable of connecting the building

with its neighbouring structures.

The same care has also been taken over the design of the new Life Sciences Building, holding research facilities and university administration offices and designed to meet the technical requirements of a booming discipline. It also creates a welcoming space for staff, students, and visitors.

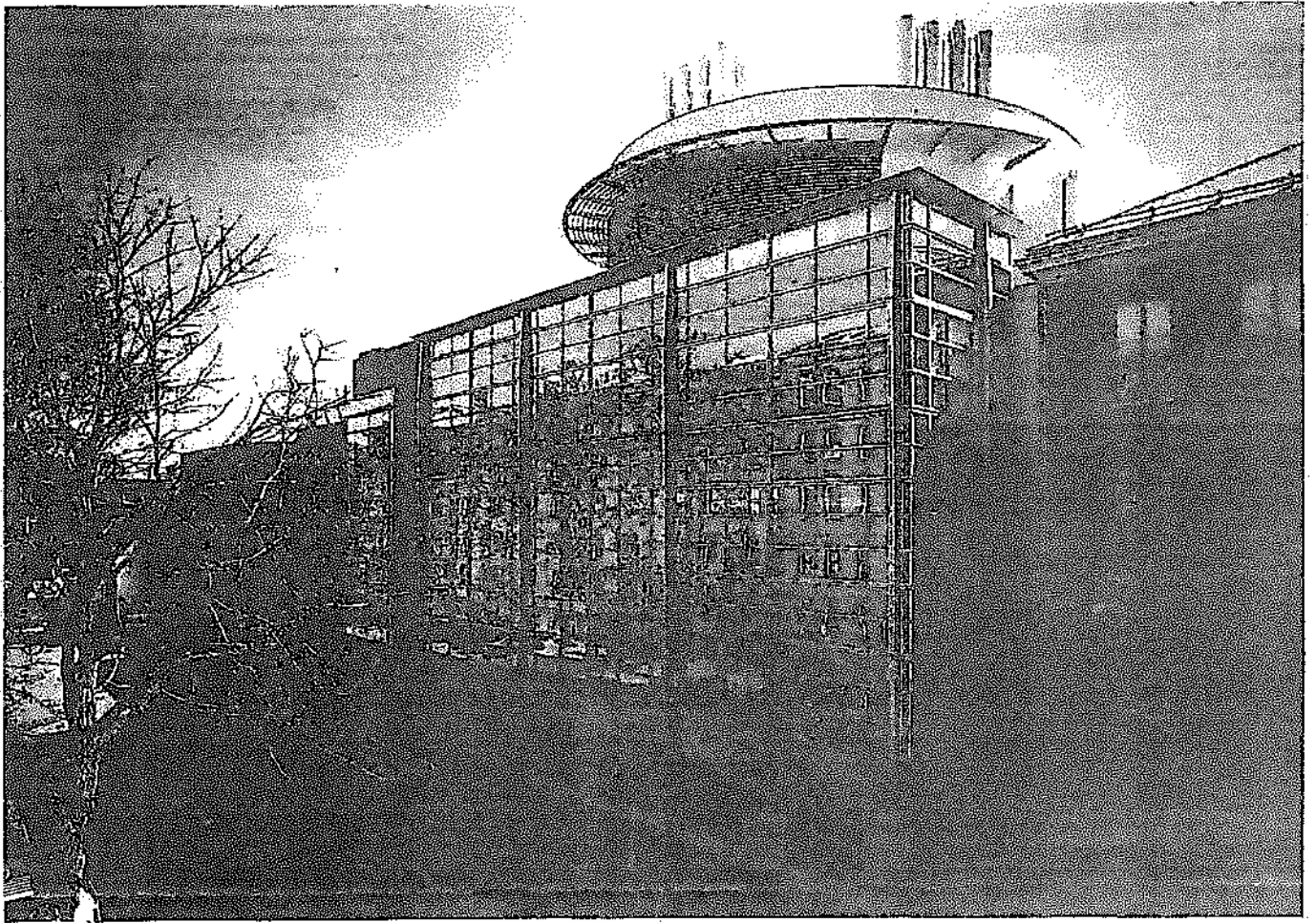
H The building also serves the purpose of connecting two existing complexes and putting the final touches to the urban lot where it is located. The Life Sciences Building's elevation facing the interior courtyard looks like a large glass container extending up over three floors. This space serves the purpose of joining together the building's different functional areas connected by a large central stairway and of holding a cyber-cafe and small interactive museum, as well as letting sunlight into the inmost areas of the building.

DOMANDA 2

La misura degli spostamenti e delle deformazioni nelle attività di laboratorio avviene sia con trasduttori lineari induttivi (LVDTs) che estensimetri o strain gauges. Il/La candidato/a descriva tale strumentazione, in particolare per la valutazione delle deformazioni principali con riferimento, ad esempio, a prove di flessione su travi in c.a. o acciaio.

Accertamento lingua inglese ed abilità informatiche

- Il candidato legga ed esponga in italiano il significato del Testo in lingua inglese indicato con la lettera B.
- Nel file Excel, data la serie numerica riportata in colonna, calcolare - adottando le funzioni del foglio elettronico - il valore massimo.



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