**History of building construction 2017/2018**

**Lesson 7 Exercises**

*18th April 2018*

**Fill the gaps - Choice of words**

1) Wright called the columns \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– tree shaped – and he borrowed from \_\_\_\_\_\_\_\_\_\_\_\_to name three of their four segments\_\_\_\_\_\_\_\_\_\_, petal and calyx. The base of each column is seven-inch-high, three ribbed shoe , which he called a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Crow’s foot, dendriform, stem, botany

2) The columns that Wright created for the Administration Building are structurally more efficient than their predecessors. The partially hollow column \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the hollow calyx and \_\_\_\_\_\_\_\_\_\_\_\_are so thin that they are virtually\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, though they were designed before the term was invented. Wright was able to design such thin columnar elements by using unusually \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_concrete.

Shell structures, stem, high strength, petal

3) The Johnson Research Tower was the first large \_\_\_\_\_\_\_\_\_\_\_structure with a hollow concrete \_\_\_\_\_\_\_\_\_\_\_to be constructed , providing the first practical test of \_\_\_\_\_\_\_\_\_\_s structural ideal for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ column on a large scale.

Core, Wright, cantilivered, multifunctional

4) The reinforced-concrete \_\_\_\_\_\_\_\_\_\_ - measure 10 inches in diameter and 20 feet in height - and are arranged using a double-spiral \_\_\_\_\_\_\_\_\_\_ . Overhead, the columns culminate in flared \_\_\_\_\_\_\_\_\_\_ that spread like tree\_\_\_\_\_\_\_\_\_\_\_\_\_. Though they invite comparison with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ capitals in Frank Lloyd Wright’s Johnson Wax Building, Ito’s versions are \_\_\_\_\_\_\_\_\_\_ shapedand positioned \_\_\_\_\_\_\_\_\_\_ in relation to the columns.

Organically, circular, off-center, capital, algorithm, canopies, columns

**Glossary**

Taproot

Mesh

Shaft

Skylight

Lobby

Carport

Shell concrete

Ramp

Joint

Lily-pad

1) a sloping surface between two places that are at different levels.

2) a main root, growing almost vertically downward from which small branch roots spread out

3) a structure like a net made of interlocking metal links

4) the main, usually cylindrical part between the ends of a column or pillar

5) reinforced usually precast concrete forming arched or domed roofs

6) a small window in the roof

7) a round floating leaf of a water lily

8) a shelter for a car, usually built beside a house and consisting of a roof supported by posts

9)a large area inside the entrance of a public building where people can meet and wait

10) The space between adjacent surfaces (as between masonry units), or the place where two members or components are held together by nails, fasteners, cement, mortar, etc.

**True/False**

Located in Racine, Wisconsin, the SC Johnson and Son Administration Building is one of Frank Lloyd Wright’s most important statements about the nature of residential buildings.

*□ True □ False*

To illustrate his choice for the steel of Johnson’s columns, Wright pointed to two cacti nearby the desert, a giant saguaro and a staghorn cholla.

*□ True □ False*

Swiss civil engineer, Robert Maillart, revolutionized the use of structural reinforced concrete with his designs for bridges and column design in a number of buildings.

*□ True □ False*

Officially opened in October 2014, Bosco Verticale (Vertical Forest) is a pair of award-winning residential towers in the Porta Nuova district of Rome designed by Boeri Studio.

*□ True □ False*

Toyo Ito’s design of the new College of Social Sciences for the National Taiwan University (2006-2013) has brought forth a building that is clearly subdivided according to functions.

*□ True □ False*

The Johnson’s tower’s section shows the only realized example of what Wright called a taproot foundation for its columnar shaft.

*□ True □ False*