Prova teorico/pratica 1

Presentare esempi di interviste standardizzate di comfort per la valutazione di comfort di un ambiente da parte degli occupanti.

Prova teorico/pratica 2

Fornire la definizione di temperatura operativa secondo ASHRAE. Fornire la espressione esplicita di temperatura operativa in funzione di temperatura dell'aria e temperatura media radiante.

Prova teorico/pratica 3

Descrivere le principali grandezze fisiche da cui dipende il comfort termo-igrometrico secondo modello PMV e Modello Adattivo, indicandone gli strumenti di misura appropriati. Descrivere il significato di Predicted Mean Vote e le categorie di Comfort di EN 16798.

PROVA ORALE 1

Prova orale 1

a) Si richiede che il candidato discuta i passaggi fondamentali per il monitoraggio delle prestazioni energetiche e di comfort termico di un edificio e le tecniche di data logging e monitoraggio remoto.

b) Office Excel: Utilizzo delle funzioni logiche AND, OR, XOR e NOT.

c) Tradurre in Italiano:

"The amount of thermal insulation worn by a person has a substantial impact on thermal comfort and is an important variable in applying this standard. Clothing insulation is expressed in a number of ways. In this standard, the clothing insulation I_{cl} of an ensemble expressed as a clo value is used.

[…]

The insulation provided by clothing can be determined by a variety of means, and if accurate data are available from other sources, such as measurement with thermal manikins, these data are acceptable for use. When such information is not available, the tables in this standard may be used to estimate clothing insulation I_{cl} using one of the methods described below.

Regardless of the source of the clothing insulation value, this standard is not intended for use with clothing ensembles with more than 1.5 clo of insulation, nor is it intended for use when occupants wear clothing that is highly impermeable to moisture transport (e.g., chemical protective clothing or rain gear). "

(Ref.ASHRAE standard 55/2020).

Prova orale 2

a) Si richiede che il candidato discuta come progettare una campagna per la verifica del grado di corrispondenza tra prestazioni energetiche e di comfort calcolate ed effettive. Cenni agli indicatori di comfort di lungo termine.

b) Office Excel: Calcolo del coefficiente di correlazione.

c) Tradurre in Italiano: "

Thermal comfort is that condition of mind which expresses satisfaction with the thermal environment. Dissatisfaction can be caused by warm or cool discomfort of the body as a whole, as expressed by the PMV and PPD, or by an unwanted cooling (or heating) of one particular part of the body.

Due to individual differences, it is impossible to specify a thermal environment that will satisfy everybody. There will always be a percentage of dissatisfied occupants. But it is possible to specify environments predicted to be acceptable by a certain percentage of the occupants. Often it will be the same persons who are sensitive to different types of local discomfort. For instance, a person sensitive to draught may also be sensitive to local cooling caused by radiant asymmetry or by a cold floor. Such a cold-sensitive person may also more easily experience cold discomfort for the body as a whole. Therefore, the PPD, DR or PD caused by other types of local discomfort should not be added. "

(Ref. EN ISO 7730:2005).